



# VALIDATION REPORT

POWERICA LIMITED

21.8 MW WIND POWER PROJECT AT JANGI  
VANDHIYA, GUJARAT BY POWERICA LIMITED

**Report No: 8111264181 – 14/040**

**Date: 25/09/2014**

TÜV NORD CERT GmbH  
JI/CDM Certification Program  
Langemarckstraße, 20  
45141 Essen, Germany  
Phone: +49-201-825-3335  
Fax: +49-201-825-2139  
[www.tuev-nord.de](http://www.tuev-nord.de)  
[www.global-warming.de](http://www.global-warming.de)



<b>Validation Report:</b>	<b>Report No.</b>	<b>Rev. No.</b>	<b>Date of 1<sup>st</sup> issue:</b>	<b>Date of this rev.</b>
	8111264181 – 14/040	0	25/09/2014	25/09/2014
<b>Project:</b>	<b>Title:</b>		<b>Initial PDD Version:</b>	<b>Final PDD Version</b>
	21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited		15/04/2014	16/09/2014
<b>Project Participant(s):</b>	<b>Client:</b>			
	Powerica Limited			
	<b>Non-Annex 1 country:</b>		<b>Annex 1 country:</b>	
	India		Not applicable	
<b>Applied methodology/ies:</b>	<b>Title:</b>		<b>No.:</b>	<b>Scope / TA:</b>
	Grid Connected Renewable Electricity Generation		ACM0002, ver 15.0	1 / 1.2
<b>Validation team / Technical Review and Final Approval</b>	<b>Validation Team:</b>		<b>Technical review:</b>	<b>Final approval:</b>
	Pankaj Patel (TL)	Indrapal Parmar (TM/TE)	Kunal Rami	Kunal Rami
<b>Expected Emission reductions: [t CO<sub>2</sub>e]</b>	<b>Expected emission reductions over the first crediting period:</b>		<b>(Expected) starting date of the crediting period:</b>	
	50,207		01/10/2014 <sup>1</sup>	
<b>Confidential content:</b>	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
<b>Key dates of validation:</b>	<b>Publication of PDD:</b>	<b>Draft Report issued:</b>	<b>On-site (from):</b>	<b>On-site (to):</b>
	16/05/2014	23/05/2014	20/05/2014	20/05/2014
<b>Summary of Validation Opinion:</b>	<p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The project is in line with all relevant host country criteria (India) and all relevant UNFCCC requirements for CDM. Project activity approval have been obtained from DNA of India vide the Letter of Approval (HCA) dated 03/09/2014</li> <li><input checked="" type="checkbox"/> The project additionality is sufficiently justified in the PDD.</li> <li><input checked="" type="checkbox"/> The monitoring plan is transparent and adequate.</li> <li><input checked="" type="checkbox"/> The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 50,207 t CO<sub>2</sub>e are most likely to be achieved within the fixed crediting period.</li> <li><input checked="" type="checkbox"/> The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.</li> </ul>			
<b>Document information:</b>	<b>Filename:</b>			<b>No. of pages:</b>
	2014-09-25_CDM VAL Report_KR.docx			128

<sup>1</sup> 01/10/2014 or the date of registration of the project under UNFCCC, whichever is latter



## Abbreviations

<b>BAU</b>	Business as usual
<b>CA</b>	Corrective Action / Clarification Action
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CER</b>	Certified Emission Reduction
<b>CL</b>	Clarification Request
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>CO<sub>2e</sub></b>	Carbon dioxide equivalent
<b>CP</b>	Certification Program
<b>DNA</b>	Designated National Authority
<b>DvaIR</b>	Draft Validation Report
<b>EB</b>	CDM Executive Board
<b>EIA</b>	Environmental Impact Assessment
<b>FAR</b>	Forward Action Request
<b>GHG</b>	Greenhouse gas(es)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>PDD</b>	Project Design Document
<b>QC/QA</b>	Quality control/Quality assurance
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVS</b>	Validation and Verification Standard



<b>Table of Contents</b>		<b>Page</b>
1	OBJECTIVE / SCOPE .....	6
2	GHG PROJECT DESCRIPTION.....	6
2.1	Project Characteristics	6
2.2	Involved Parties and Project Participants	7
2.3	Project Location	7
2.4	Technical Project Description	8
3	METHODOLOGY AND VALIDATION SEQUENCE.....	9
3.1	Validation Steps	9
3.2	Contract review	9
3.3	Appointment of team members and technical reviewers	10
3.4	Consideration of Public Stakeholder Comments	11
3.5	Validation Protocol	11
3.6	Review of Documents	12
3.7	Site Visit and Follow-up Interviews	12
3.8	Project comparison	13
3.9	Resolution of Clarification and Corrective Action Requests	13
3.9.1	Definition	13
3.9.2	Draft Validation	13
3.9.3	Final Validation	13
3.10	Technical review	14
3.11	Final approval	14
4	VALIDATION FINDINGS .....	15
5	VALIDATIONASSESSMENT SUMMARY.....	28
5.1	General Description of the Project Activity	28
5.1.1	Technology to be employed	28
5.1.2	Small Scale Projects	29
5.2	Project Baseline	29
5.2.1	Application of the Methodology	29
5.2.2	Project Boundary	29
5.2.3	Baseline Identification	30
5.2.4	Algorithms and formulae used to determine emission reductions	31
5.3	Additionality Determination	33
5.3.1	Consideration of CDM in decision making (if project start before validation)	33
5.3.2	Alternatives	34
5.3.3	Investment analysis	35
5.3.4	Barrier analysis	39



---

5.3.5	Common practice analysis	39
5.4	Monitoring Plan	40
5.5	Crediting Period	42
5.6	Environmental Impacts	42
5.7	Comments by Local Stakeholders	42
5.8	Participation	43
5.8.1	Project Participants	43
5.8.2	LOA	43
5.8.3	MoC	43
5.9	PDD editorial Aspects	44
6	VALIDATION OPINION .....	45
7	REFERENCES .....	46
	ANNEX 1: VALIDATION PROTOCOL.....	53
	ANNEX 2: ASSESSMENT OF APPLICABILITY CRITERIA .....	102
	ANNEX 3: ASSESSMENT OF BASELINE IDENTIFICATION.....	108
	ANNEX 4: ASSESSMENT OF FINANCIAL PARAMETERS.....	109
	ANNEX 5: ASSESSMENT OF BARRIER ANALYSIS .....	125
	ANNEX 6: OUTCOME OF THE GSCP.....	127
	ANNEX 7: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL .....	128



## 1 OBJECTIVE / SCOPE

The purpose of a validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the project design including especially: the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that the proposed CDM project activity meets all relevant and applicable CDM criteria.

The information included in the PDD and the supporting documents were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Standard<sup>VVS</sup>, carried out a full assessment of all evidences to assess the compliance of the project with the key areas as outlined in the VVS (version 07.0, EB 79 annex 4).

The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

## 2 GHG PROJECT DESCRIPTION

### 2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.



**Table 2-1: Project Characteristics**

Item	Data
Project title	21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/> 1 Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/> 2 Energy distribution
	<input type="checkbox"/> 3 Energy demand
	<input type="checkbox"/> 4 Manufacturing industries
	<input type="checkbox"/> 5 Chemical industry
	<input type="checkbox"/> 6 Construction
	<input type="checkbox"/> 7 Transport
	<input type="checkbox"/> 8 Mining/Mineral production
	<input type="checkbox"/> 9 Metal production
	<input type="checkbox"/> 10 Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/> 11 Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/> 12 Solvents use
	<input type="checkbox"/> 13 Waste handling and disposal
	<input type="checkbox"/> 14 Afforestation and Reforestation
	<input type="checkbox"/> 15 Agriculture
Applied Methodology	ACM0002, ver 15.0
Technical Area(s)	1.2 Renewable Energies
Crediting period	<input type="checkbox"/> Renewable Crediting Period (7 y) <input checked="" type="checkbox"/> Fixed Crediting Period (10 y)
Start of crediting period	01/10/2014 or the date of registration of the project under UNFCCC, whichever is latter

## 2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

**Table 2-2: Project Parties and project participants**

Characteristic	Party	Project Participant
Non-Annex 1 Country	India	Powerica Limited
Annex 1 Country	Not applicable	Not applicable

## 2.3 Project Location

The details of the project location are given in table 2-3:

**Table 2-3: Project Location**

No.	Project Location
Host Country	India



No.	Project Location
Region:	State: Gujarat
Project location address:	Taluka: Bhachu District: Kutch
Latitude:	<b>Refer table mentioned below</b>
Longitude:	<b>Refer table mentioned below</b>

Sr. No.	WTG Location No.	Site Location	Latitude	Longitude
1	JW04	Jangi	N23 12 41.3	E70 34 28.8
2	JW11	Jangi	N23 13 05.5	E70 32 15.6
3	VW33	Lakhapar	N23 12 46.6	E70 38 00.0
4	VW 41	Vadhiya	N23 12 18.3	E70 35 59.7
5	VW50	Lakhdhirdh	N23 14 52.2	E70 35 41.2
6	VW52	Godpar	N23 13 06.3	E70 36 58.4
7	VW53	Lakhdhirdh	N23 14 49.6	E70 34 59.9
8	VW60	Lakhdhirdh	N23 14 26.6	E70 35 07.8
9	VW68	Lakhdhirdh	N23 15 10.3	E70 35 56.3
10	VW69	Vandhiya	N23 14 23.1	E70 36 26.9
11	VW72	Vandhiya	N23 14 24.5	E70 37 02.3

## 2.4 Technical Project Description

The technical key data are provided in table 2-4 below

**Table 2-4:** Technical data of the project activity

Parameter	Technical Specification of WTG
Make	Vestas
Model No.	V100
Rated Power	2,000 kW
Cut-in wind speed	3 m/s
Rated wind speed	12 m/s
Cut-out wind speed	20 m/s
Rotor diameter	100 m
Rotor Swept area	7,850 m <sup>2</sup>
Tower Type	tubular steel tower
Hub heights	80 m/95 m

## **3 METHODOLOGY AND VALIDATION SEQUENCE**

### **3.1 Validation Steps**

The validation of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- Desk review of the PDD and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

### **3.2 Contract review**

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.



### 3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 3 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

**Table 3-2:** Involved Personnel

	Name	Company	Function <sup>1)</sup>	Qualification Status <sup>2)</sup>	Scheme competence <sup>3)</sup>	Technical competence <sup>4)</sup>	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Pankaj Patel	TUV India Pvt. Ltd.	TL	LA	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Indrapal Parmar	TUV India Pvt. Ltd.	TM <sup>A)</sup>	A	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mr. <input type="checkbox"/> Ms.		-	TR <sup>B)</sup> OR <sub>B)</sub>	-	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Kunal Rami	TUV NORD Germany	FA <sup>B)</sup>	SA	<input checked="" type="checkbox"/>	-1.2	<input checked="" type="checkbox"/>	-

<sup>1)</sup> TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

<sup>2)</sup> GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

<sup>3)</sup> GHG auditor status (at least Assessor)

<sup>4)</sup> As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

<sup>5)</sup> In case of verification projects

<sup>A)</sup> Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

<sup>B)</sup> No team member

All team members contributed to the review of documents, the assessment of the project activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the project activity, e.g. technical or host country aspects.

Statements of competence for the above mentioned team members are enclosed in annex 7 of this report.



### 3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the validation activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

During the webhosting period no local stakeholder’s comments were received.

### 3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from pre-validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as project specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

<b>Validation Protocol Table A-1: Requirement checklist</b>				
<b>Checklist Item</b>	<b>Validation Team Comment</b>	<b>Reference</b>	<b>Draft Conclusion</b>	<b>Final Conclusion</b>
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further subdivided as per the requirements of the topic and the individual project activity.</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVS shall be covered in this section.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

**Figure1:** Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.



### 3.6 Review of Documents

The published PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

### 3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

**Table 3-3:** Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Project proponent Powerica Limited <sup>/IM01/</sup> 2. Technology Supplier <sup>/IM01/</sup> 3. Project Consultant <sup>/IM02/</sup> 4. Local Stakeholders <sup>/IM03/</sup>	M/s - Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD

A comprehensive list of all interviewed persons is part of section 7 'References'.

### 3.8 Project comparison

The validation team has compared the proposed CDM project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

### 3.9 Resolution of Clarification and Corrective Action Requests

#### 3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

#### 3.9.2 Draft Validation

After reviewing all relevant documents and taken all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

#### 3.9.3 Final Validation

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised



in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s)/ FAR(s) are documented in chapter 4.

### **3.10 Technical review**

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

### **3.11 Final approval**

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).



## 4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised:

**Table 4-1:** Summary of CARs, CLs and FARs issued

Validation topic <sup>1)</sup>	No. of CAR	No. of CL	No. of FAR
Description of project activity (A): - Project specification - Technical project description - Project Participants Technologies and/or measures	01	00	00
Application of selected approved baseline and monitoring methodology (B) - Application of the Methodology - Project Boundary - Baseline identification - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Additionality determination - Monitoring Methodology - Monitoring Plan - Project management planning	06	02	00
Duration and Crediting Period (C)	02	00	00
Environmental impacts (D)	00	00	00
Local Stakeholder Consultation (E)	01	00	00
Approval, Authorization and other aspects (F): - Letter of Approval - Contribution to sustainable development - MoC - PDD editorial aspects	02	01	00
<b>SUM</b>	<b>12</b>	<b>03</b>	<b>00</b>

<sup>1)</sup> The letters in brackets refer to the validation protocol



The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding	CAR A1		
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<ol style="list-style-type: none"> <li>1. Project activity includes two models of Vestas make i.e. 2.0 MW and 1.8 MW. However, in page 5 of the PDD technical specification of 1.8 MW model WTG is missing.</li> <li>2. Also, in mentioned in page 3 of the PDD regarding the monitoring plan for expenditure; same is missing in annexures of the PDD.</li> <li>3. As verified during the site visit; review of the WTG layout diagram and interview with the site personal; WTG number JM08 is not involved in project.</li> </ol> <p><b>Associated checklist question(s):</b> A 1.1</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> <li>1. As per the recent development in the project, 2.0 MW WTG will be used in the project activity instead of the 1.8 MW WTG. The change has been described in details against CL B1 of this report.</li> <li>2. The annex-1 is now included in the revised PDD and the monitoring plan for expenditure incurred through 2% of CER revenues has been provided therein.</li> <li>3. JW 08 is now removed in the revised PDD and the exact finalised locations are provided.</li> </ol>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<ol style="list-style-type: none"> <li>1. Justification submitted by project proponent is against the CL B1 is checked by validation team along with supporting documents and same is accepted to validation team. Revised PDD and spreadsheets checked by validation team are found to be correctly updated.</li> <li>2. Annex-1 is now included in the revised version of the PDD. Annex-1 is checked by validation team to be correct and OK.</li> <li>3. JW-08 was wrongly included in section A.2.4 of the PDD. In revised PDD the location number of the WTG is corrected to JW-11 same was evidence by validation team during the site visit.</li> </ol> <p>CAR is closed.</p>		



Finding	CAR A1
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CAR B1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	As per para 9 of the applied methodology ACM0002 ver.14 applicability criteria (and justification against it) as mentioned in para 9 is missing in section B.2 of the PDD.  <b>Associated checklist question(s):</b> B 2.1		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The same is now incorporated in the revised PDD		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section B.2 of the revised PDD now includes the applicability criteria (and justification against it) which is correct and in line with the latest applied methodology ACM0002 version 15.0.  CAR is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CAR B2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Section B.5 of the PDD doesn't mention/identify the realistic and credible alternative scenarios as guided by step-1 of the applied methodology ACM0002 version. 15.0  2. Also, section B.5 of the PDD doesn't mention the reference of the investment analysis guideline used by project proponent for demonstration of additionality  <b>Associated checklist question(s):</b> B.5.2.4		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	1. The PDD has been modified suitably to identify realistic and credible scenarios to the project activity.  2. The reference of the investment analysis guideline has been mentioned in section B.5 of the PDD.		



Finding	CAR B2
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Section B.5 of the revised PDD now includes the description on the realistic and credible alternatives to the project activity which is correct and in line with the applied methodology ACM0002, VER. 15.0. Additionally, during the course of the validation process version of the applied methodology was changed so, accordingly project proponent has revised the PDD in line with latest methodology. Revised PDD is checked by validation team to be correct and in line with applied methodology.</p> <p>Moreover, the reference of the investment analysis guideline used in the financial analysis is now included correctly used in the revised PDD.</p> <p>CAR is closed.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>

Finding	CAR B3		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>The reference given for each input parameter (both in the PDD and worksheet) does not contain the date and page number of the document.</p> <p><b>Associated checklist question(s):</b> B.5.4.7</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The date and page no. are now mentioned against the applicable parameters in revised worksheet and PDD.</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>In revised PDD and financial spreadsheet date and page number of the reference document is now included correctly. Reference document from which the value of the input parameter is sourced is checked by validation team to correct and mutually consistent.</p> <p>CAR is closed.</p>		
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>		

Finding	CAR B4		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	CAR B4
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Sensitivity analysis doesn't contain the explanation for input parameters with their values; that at what percent variation in the parameter the IRR will cross the benchmark. Also, submit the actual values for each of the input parameters used in the assumption sheet.</p> <p><b>Associated checklist question(s):</b> B.5.4.13</p>
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Same is now incorporated in the revised PDD submitted to the DoE. All the supportive for the actual cost are also being furnished herewith.</p>
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Section B.5 of the revised PDD now includes an explanation on sensitivity analysis. The percent variation in the input parameter at which IRR will cross the benchmark is now included correctly in the revised PDD. Revised PDD and financial spreadsheet is checked by validation team to be correct and accurate in this regard.</p> <p>CAR is closed.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>

Finding	CAR B5		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>The data/parameter i.e. EF grid, CM, y =0.9776 tCO2/MWh value used for emission factor calculation is consistent in section B.6.1 and B.6.2.</p> <p><b>Associated checklist question(s):</b> B.5.7.4</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The inconsistency is now rectified in the revised PDD submitted to the DoE.</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Designation for the ex-ante fixed parameter "Operating margin CO2 emission factor of NEWNE grid" is now corrected in the revised PDD submitted by PP.</p> <p>CAR is closed.</p>		
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>		

Finding	CAR B6
---------	--------



Finding	CAR B6		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Measurement procedure for the monitoring parameter (as mentioned in section B.7.1) is not in line with the applied methodology ACM0002 VER. 15.0 (page 23/28). Further, daily generation data is also not part of the monitoring parameter as same will be used in emission reduction calculation (refer additional comment included in section B.7.1)  <b>Associated checklist question(s):</b> B.5.8.1		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Since the applied version, 14.0 of the methodology, ACM 0002 is now revised to version, 15.0; the project proponent has updated the documentation to apply the latest version of the methodology. As per the new VER. 15.0 of the methodology, since the meters used at the project site are bi-directional energy meters, separate monitoring of export and import is not required.  An additional parameter, <b>EG<sub>LCS,y</sub></b> i.e. Summarised quantity of electricity generation recorded at LCS of each WTGs is now included in section B.7.1 of the revised PDD..		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Project proponent has revised the project document as per latest applied methodology ACM0002 VER. 15.0 available in UNFCCC webpage. For emission reduction calculation “Quantity of net electricity generation supplied by the project plant/unit to the grid in year y” will be used which is sourced from the monthly Certificate for Share of Electricity Generated by Wind Firm issued by GETCO which is now in line with page 23/29 of applied methodology ACM0002 version 15.0.  Additionally, project proponent has included the additional monitoring parameter i.e. “Summarised quantity of electricity generation recorded at LCS of each WTGs” in section B.7.1 of the revised PDD This parameter is sourced from the LCS generation data recorded through SCADA system at Centralised Monitoring System (CMS). This parameter will only be used in the case of the crediting period start & end dates of the project activity falls in – between the billing cycles.  CAR is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CAR C1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	CAR C1
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Expected operational lifetime of the project activity considered in section C.1.2 of the PDD doesn't refer any supporting evidence. <b>Associated checklist question(s):</b> C.1.2
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Reference for operational lifetime is now mentioned in section C.1.2 of the revised PDD.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Section C.1.2 of the PDD is now revised by project proponent to include the reference for the operational lifetime of the project activity as 20 years. CAR is closed.
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	C2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	In PDD version 2 section C.2.2, realistic crediting period start date is not provided. <b>Associated checklist question(s):</b> C.1.3		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The crediting period start date has been revised in PDD version 3.0		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The revised crediting period start date as per PDD version 3 is no more valid now. CAR C2 is open.		
<b>Corrective Action #2</b>	The crediting period start date has been revised in PDD version 4.0		
<b>DOE Assessment #2</b>	The revised crediting period start date as per PDD version 4.0 is checked to be realistic and hence acceptable. CAR C2 is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		



Finding	CAR E1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Section E.1 of the PDD project proponent has not included the date of advertisement given in local newspaper for local stakeholder meeting conducted for the said project activity.  <b>Associated checklist question(s):</b> E.1.1		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The date of the edition of local newspaper on which the public notice for local stake holder meeting was published in now mentioned in the revised PDD.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Stakeholders were invited for the meeting through public notice on local paper dated 04/01/2014. Supporting evidence for the same is checked by validation team to confirm the correctness of the date included in the revised PDD. Revised PDD is also checked by validation team and found to be correct and accurate.  CAR is closed.		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CAR F1		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Host Country Approval (HCA) letter received for the project activity is not yet submitted by the project proponent to DOE. Section F of the PDD is to be updated accordingly.  <b>Associated checklist question(s):</b> F.1		
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	Host Country Approval (HCA) from the NCDMA of the host county is awaited; the same will be submitted to the DoE soon as it received.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	HCA is not submitted, CAR is opened.		
<b>Corrective Action #2</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The project proponent has acquired Host Country Approval (HCA) from MoEF and copy of the same is provided to the DOE.		



Finding	CAR F1
<p><b>DOE Assessment #2</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Host Country Approval (HCA) letter ref. No 4/1/2014-CCC dated 03/09/2014 is submitted to TÜV Nord. Letter is reviewed by validation team and found to be correct and accurate in following aspects:</p> <ol style="list-style-type: none"> <li>1. The project has written the approval from the host party (India) involved.</li> <li>2. The HCA has been issued by Ministry of Environment and Forestry (MoEF)<sup>/MOEF/</sup> which is listed as the DNA on the UNFCCC CDM website.</li> <li>3. The host country approval<sup>/HCA/</sup> confirms that the corresponding party is a Party to the Kyoto Protocol.</li> <li>4. The host country approval<sup>/HCA/</sup> confirms that the participation is voluntary.</li> <li>5. The host country approval<sup>/HCA/</sup> confirms that the project contributes to the sustainable development in the country.</li> <li>6. The host country approval<sup>/HCA/</sup> refers to the precise project title in the PDD submitted for registration.</li> <li>7. The host country approval<sup>/HCA/</sup> is unconditional with regard to the checklist questions, section F in the validation protocol of the FVR.</li> <li>8. The host county approval<sup>/HCA/</sup> has been issued in the name of project proponent (PP) i.e. Powerica Limited which is listed as the project proponent in section A.4 of the PDD.</li> <li>9. The host country approval<sup>/HCA/</sup> mentions that the project assists in achieving sustainable development in the host country (India).</li> </ol> <p>CAR is closed.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification  <input type="checkbox"/> Additional action should be taken (finding remains open)  <input checked="" type="checkbox"/> The finding is closed</p>

Finding	CAR F2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Modality of communication (MOC) for the project activity is not yet submitted by project proponent to validation team.</p> <p><b>Associated checklist question(s):</b> F.2</p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The Modalities of Communication (MoC) for the project is being herewith.</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Modality of Communication (MoC) form is correctly filled by project proponent. MOC form is checked by validation team and found to be correct and OK.</p> <p>CAR is closed.</p>		



Finding	CAR F2
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed

Finding	CL B1
<b>Classification</b>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> CL <input type="checkbox"/> FAR
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Project activity includes the Vestas make WTGs i.e. 2 MW and 1.8 MW WTGs; Clarification is requested against the correctness of the calculation of cost per WTG as mentioned in the IRR sheet  <b>Associated checklist question(s):</b> B.5.4.7
<b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The project proponent would like to inform that evacuation approval for the substation initially was up to 200 MW i.e. 100 MW per each of the two transformers installed at substation. The evacuation capacity of the substation was fully utilized prior to this project leaving behind a total possible capacity of 21.8 MW. Based on this, Vestas had proposed a total capacity up to 21.8 MW comprising 10 WTGs of 2.0 MW each and one WTG of 1.8 MW and accordingly the project proponent had taken the decision to go ahead with a capacity of 21.8 MW as per Vestas' proposal. The agreement was also signed with Vestas for a capacity of 21.8 MW (i.e. 10 WTGs of 2.0 MW and one WTG of 1.8 MW). It should be noted that the cost of 1.8 MW WTG and 2.0 MW WTGs was agreed to be same in the agreement as both come under the same model number, V-100 even though the capacities are different. Meanwhile, Vestas received an approval from Gujarat Energy Transmission Corporation Limited (GETCO) for the evacuation capacity expansion from 200 MW to 201.9 MW. Subsequently, Vestas came with an offer to the project proponent to use a 2.0 MW WTG of V-100 model instead of the previously decided 1.8 WTG. Now, since the project proponent has an option to increase the capacity of the WTG with capacity 1.8 MW to 2.0 MW without incurring any additional cost, it is worth to go for the WTG with marginally higher capacity. Therefore, the capacity of the project would now become 22.0 MW. The letter received from GETCO for enhancement of evacuation approval from 200 MW to 201.9 MW is submitted to the DoE herewith. Necessary revisions are carried out in project documentations i.e. PDD, CER sheet, IRR worksheet and CPA calculation and submitted to the DoE.
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Justification submitted by project proponent is accepted to validation team. As per offer received from Vestas project activity involved 10 numbers of 2 MW machine + 1 number of 1.8 MW making it total of 21.8 MW. While during the course of actual project implementation the installed capacity of the project activity was revised to 22 MW i.e. 11 numbers of 2 MW machines. The said revision in the project capacity is due to the constraints related to



Finding	CL B1
	<p>power evacuation capacity of substation to which project activity WTG supposed to be connected. Validation team has checked the communication letter received from Vestas and letter from Gujarat Energy Transmission Corporation Limited (GETCO) for the evacuation capacity expansion from 200 MW to 201.9 MW to confirm that the revision done in the project capacity from 21.8 MW to 22 MW is realistic case. Validation team has also checked the permission letter given by state nodal agency i.e. Gujarat Development Agency (GEDA) to project proponent for setting up the 22 MW wind power project.</p> <p>Moreover, the total project cost of the project i.e. 22 MW remains the same which is correct and conservative approach for estimation of the additionality of the project activity.</p> <p>Accordingly, project proponent has revised the PDD financial spreadsheets and Common Practice Analysis (CPA). Revised project documents submitted by project proponent are checked by validation team against the support documents to confirm that the changes done in the PDD and allied spreadsheets are correct and accurate leading to conservative estimation of additionality.</p> <p>CL is closed.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>

Finding	CL B2		
<b>Classification</b>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Clarification is request as to why not minimum or mean value of inflation is considered for the benchmark calculation.</p> <p><b>Associated checklist question(s): B.5.4.19</b></p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>Median value 5.90 was assumed expecting a realistic return out of the investment. The minimum value of 4% is very unrealistic considering past trend and current inflation rate of the host country (India).</p> <p>However, for the sake of conservativeness and considering the fact that mean value would be appropriate for a continuous distributions data (WPI), the mean value, 5.60% is now used for the calculation. Necessary revisions are carried out in the financial calculation sheet and PDD.</p>		



Finding	CL B2
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Justification submitted by project proponent is accepted to validation team. In the revised PDD and financial calculation project proponent has corrected the benchmark calculation considering the mean value of the inflation rate as published by the central bank of the host country. The mean value of the wholesale price index (WPI) over the next ten years is correctly taken as 5.60% in the revised benchmark calculation. Validation team checked the reference source/link of the Reserve Bank of India to confirm the correctness of the value used in the revised project documentation.</p> <p>Therefore, based on local and sectoral expertise of the host country validation team confirm that the mean value inflation rate for India used for benchmark calculation is correct and accurate.</p> <p>CL B2 is now closed.</p>
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification  <input type="checkbox"/> Additional action should be taken (finding remains open)  <input checked="" type="checkbox"/> The finding is closed</p>

Finding	CL F1		
<b>Classification</b>	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
<p><b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Following documents/documentary evidences should be submitted:  a) O&amp;M agreement  b) Purchase order for BOP.  c) Power Purchase Agreements  d) State Nodal Agency clearances to set up the project.  <b>Associated checklist question(s): F.3.2</b></p>		
<p><b>Corrective Action #1</b> <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>a) Submitted  b) Submitted  c) Not yet signed  d) Submitted</p>		
<p><b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>a) OK, Submitted.  b) OK, Submitted.  c) OK, PPA is not yet signed by PP.  d) OK, Submitted.  CL is open.</p>		
<b>Corrective Action #2</b>	PPA is now signed and submitted to DOE		
<b>DOE Assessment #2</b>	PPA is now submitted. CL is closed now.		
<p><b>Conclusion</b> <i>Tick the appropriate checkbox</i></p>	<p><input type="checkbox"/> To be checked during the first periodic verification  <input type="checkbox"/> Additional action should be taken (finding remains open)  <input checked="" type="checkbox"/> The finding is closed</p>		

Validation Report: 21.8 MW Wind Power project at Jangi Vandhiya, Gujarat  
by Powerica Limited

TÜV NORD CERT GmbH JI/CDM Certification Program

R-No.: 8111264181 – 14/040

---





## 5 VALIDATIONASSESSMENT SUMMARY

### 5.1 General Description of the Project Activity

#### 5.1.1 Technology to be employed

The project activity is a green field project in village: Jangi; Lakhapar; Vadhiya; Lakhdhirgadh and Godpar of Taluka; Bhachu, District: Kutch of State Gujarat of India. Project involves installation and operation of 11 wind turbines generator of capacity 2.0 MW aggregating to 22 MW. The purpose of the project activity is to harness the renewable resources of wind power and thereby displace equivalent electricity from the fossil fuel dominate NEWNE grid. The WTGs of the project activity were commissioned on 12/06/2014 (5 WTGs), 14/06/2014 (3 WTGs), 25/06/2014 (2 WTGs) and 08/07/2014 (1 WTG). The exact geographical locations of the WTGs are mentioned in the PDD has been checked during the site visit and found to be correct and accurate.

Validation team would like to highlight here that in webhosted PDD the project capacity was 21.8 MW i.e. 10 WTGs x 2 MW + 1 WTG x 1.8 MW. However, during the course of validation process and actual project implementation and during site visit & interview with the PP & Vestas and review of statutory approval letters<sup>/SC/</sup> the project capacity was revised to 22 MW i.e. 11 WTGs x 2 MW. This revision in project capacity is justified appropriately by PP with valid documents (statuary approvals & land clearances<sup>/SC/</sup>). The said revision in the project capacity is due to the constraints related to power evacuation capacity of substation to which project activity WTG supposed to be connected. Validation team has checked the letter from Gujarat Energy Transmission Corporation Limited (GETCO) for the evacuation capacity expansion from 200 MW to 201.9 MW to confirm that the revision done in the project capacity from 21.8 MW to 22 MW is realistic case. As verified from actual total project cost break up submitted by PP validation team has found that the total project cost remains same for 22 MW<sup>/PO/</sup> as it was offered for 21.8 MW<sup>/OFFER/</sup>. Therefore, project proponent has revised the project document based on 22 MW which is correct and conservative approach and therefore accepted to validation team.

The Quantity of net electricity generation supplied by the project is estimated as 51,494.8 MWh of electricity per annum. The generated electricity will be sold/supplied to the NEWNE grid (under Power Purchase Agreement conditions) of India. The project activity will thus reduce Greenhouse gas (GHG) emissions associated with the NEWNE grid, which is connected with predominantly fossil fuel based power plants.

The total emission reductions due to the project activity work out to be 50,207 tCO<sub>2</sub>e per year. "M/s Powerica Limited" is the PP (of host party) for the subject project activity and the same was confirmed by letter of approval<sup>/HCA/</sup> obtained from the DNA of India.



The technology to be applied is deemed to be current good practice and is not expected to be replaced within the crediting period. The project activity contributes to the sustainable development criteria of the host country in terms of social, economical, technological and environmental benefits achieved due to the project activity.

The operational lifetime of the project has been determined (by the manufacturer) as 20 years which corresponds to the standard design life time of turbines and has been verified from the technical specification<sup>TS/</sup> provided by the WTG supplier. The project participant has fixed crediting period of 10 years.

TÜV Nord validation team considers the project description of the project contained in the PDD to be complete and accurate. The PDD complies with the relevant methodology, tools, forms and guidance at the time of PDD submission for registration.

However, during the course of validation process CAR A1 and CL B1 are raised and closed successfully.

### **5.1.2 Small Scale Projects**

The proposed project activity is large scale project activity, hence it is not applicable.

## **5.2 Project Baseline**

### **5.2.1 Application of the Methodology**

The selected baseline methodology for the project activity is the approved baseline methodology “Grid connected renewable electricity generation” (ACM0002, version 15.0). The selected baseline methodology, i.e., ACM0002, version 15.0 and Tool to calculate the emission factor for an electricity system version 04.0.0, EB 75, Annex 15 is correctly applied to this type of grid connected renewable generation by wind. The project meets all the applicability criteria specified in the methodology.

Validation team is convinced that as this project activity is generation of electricity by using renewable source of energy i.e. wind, it does not result in any emission from project or leakages.

### **5.2.2 Project Boundary**

The system boundaries of the project are clearly defined in the PDD. The spatial extent of the project boundary includes the project site and all power plants connected physically to the baseline grid i.e. NEWNE regional grid of India. As per the approved methodology ACM0002, version 15.0, project emission from renewable source of energy is zero. There are no other sources which are impacted by the project.



Validation team has checked the project boundary during site visit and verified the CO<sub>2</sub> database of Central Electricity Authority<sup>/CEA/</sup> which form a part of the project boundary.

In summary, the project boundary was correctly identified in accordance with the methodology ACM0002 ver. 15 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources. All greenhouse gas emissions occurring within the proposed project activity boundary as a result of the implementation of the proposed CDM project activity have been appropriately addressed in the PDD.

The identified project boundary and selected sources of emissions are justified for the project activity. The validation of the project activity did not reveal other greenhouse gas emissions occurring within the proposed CDM project activity boundary as a result of the implementation of the proposed project activity which are expected to contribute more than 1% of the overall expected average annual emission reduction, with respect to the methodology applied.

However, during the course of validation process CAR B1 is raised by validation team and closed successfully.

### 5.2.3 Baseline Identification

The identified baseline scenario, in line with the methodology ACM0002 ver. 15, is the equivalent electricity that would in absence of the project activity, have been generated by the operation of the grid-connected power plants belonging to the NEWNE regional grid.

The baseline for the project activity is thus the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid. In the absence of the project activity, equivalent amount of power would have been drawn from the grid with existing power plants connected to the system or future capacity additions. Calculations for the baseline emission factor are found based on data from the Central Electricity Authority (CEA), version-9<sup>/CEA/</sup>, an autonomous body under the Ministry of Power, Government of India, and hence found acceptable. The CEA has published on its website (<http://www.cea.org>). The value of emission coefficients for each regional grid arrived at by considering conservative values.

According to approved methodology ACM0002, version. 15.0, baseline identified is the MWh produced by the renewable generating units multiplied by combined margin (CM) emission coefficient calculated based on combination of Operating Margin (OM) and Build margin (BM) emission factors according to the procedures prescribed in the "Tool to calculate the emission factor for an electricity system" version 04.0.0 calculated in a transparent and conservative manner. Operating Margin (OM) and Build margin (BM) emission factors are correctly taken from the baseline carbon



dioxide emission database Version 9.0 published by Central electricity Authority<sup>/CEA/</sup> and is available on public domain and is reliable data source.

Thus the identified baseline scenario of existing electricity grid supplying equivalent amount of electricity emerges as the most likely scenario as per the methodology ACM0002, version. 15.0. The methodology clearly indicates that the baseline is the MWh produced by the renewable generating multiplied by the grid emission coefficient. Thus, the PDD<sup>/PDD/</sup> describes baseline identification in an accurate manner and is well in line with methodology.

As per the applied methodology ACM0002 ver. 15, “mention baseline requirement of methodology”. The validation team confirms that the proposed project activity meets the above requirement. Therefore, the baseline scenario as prescribed in the ACM0002 ver. 15 is applicable to the proposed project activity. The validation took cognizance of § 98 of VVS (version 07.0).

The approved baseline methodology has been correctly applied to identify a realistic and credible baseline scenario, and the identified baseline scenario most reasonably represents what would occur in the absence of the proposed CDM project activity.

All the assumption and data used by the project participants are listed in the PDD and/or supporting documents. All documentation relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD.

However, during the course of validation process CAR B2 is raised by validation team and closed successfully.

#### 5.2.4 Algorithms and formulae used to determine emission reductions

As per applied baseline methodology ACM0002, Ver. 15.0, the emission reductions  $ER_y$  by the project activity during a given year “y” is calculated as follows:

$$ER_y = BE_y - PE_y$$

Where,

$ER_y$	=	Emission reductions in year y (t CO <sub>2</sub> e/yr)
$BE_y$	=	Baseline emissions in year y (t CO <sub>2</sub> /yr)
$PE_y$	=	Project emissions in year y (t CO <sub>2</sub> e/yr)

##### 1. Baseline Emission ( $BE_y$ ):

As per the methodology, baseline emission are calculated by multiplying net power supplied to the grid by the project activity ( $EG_{\text{facility},y}$ ) in MWh with Combined Margin grid emission factor ( $EF_{\text{grid,CM},y}$ ) of NEWNE (Northern, Eastern, Western and North-



Eastern) regional grid calculated based on combination of Operating Margin (OM) and Build Margin (BM) emission factors according to the procedures prescribed in the “Tool to calculate the emission factor for an electricity system” version 4.0 calculated in a transparent and conservative manner. Operating Margin (OM) and Build margin (BM) emission factors are correctly taken from the CO2 database version 9.0 published by Central electricity Authority<sup>/CEA/</sup> and is available on public domain and is reliable data source. Validation team has reviewed that the version 9.0 is the latest available at the time of submission of PDD for validation i.e. at the time of webhosting of the PDD.

Baseline Emissions for the amount of electricity supplied by project activity,  $BE_y$  is calculated as

$$BE_y = EG_{PJ,y} * EF_{Grid, CM,y}$$

Where

$EG_{PJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)

$EF_{grid,CM,y}$  = Combined margin CO2 emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”, version 04.0.0 (tCO2/MWh)

There, baseline emission for the project activity is calculated as:

$$BE_y = 51,494.8^2 \text{ (MWh/year)} * 0.9750 \text{ (tCO}_2\text{e/MWh)}$$
$$= 50,207 \text{ tCO}_2\text{e/ year}$$

## 2. Project Emission (PE<sub>y</sub>):

As the project involves installation of wind turbines using renewable source of energy, there is no project emission from the project activity. And hence, project emission is is Zero for the project activity. Hence,  $PE_y = 0$ .

As the energy generating equipment is not transferred from another activity or the existing equipment is transferred to another activity, the leakages are not considered as per the approved methodology ACM0002, ver.15.0.Hence, leakage is considered as zero while calculating the net emission reduction from the project activity.

Therefore,the ex-ante calculation of emission reductions for the project activity is calculated as:

$$ER_y = BE_y - PE_y, \text{ since project emission is zero}$$

$$\text{Hence, } ER_y = BE_y = 50,207 \text{ tCO}_2\text{e/ year}$$

<sup>2</sup> As per third Party PLF assessment report



Thus, it is concluded by validation team that all the applied equations for the calculation of the baseline emission are derived as per the guidelines provided in approved methodology ACM0002, version 15.0 and Tool to calculate emission factor for an electricity system Version 4.0.

The emission reduction excel calculation sheet<sup>/CER/</sup> submitted was checked by the validation team and found to be correct. The value of combined margin baseline emission factor taken as **0.9750 tCO<sub>2</sub>/MWh** and is fixed ex-ante for entire crediting period. The operating margin is generation weighted for the latest three years and Build Margin was verified with the CO<sub>2</sub> database published by CEA<sup>/CEA/</sup> report version 9.0 was found to be correct.

The Plant Load Factor (PLF) taken as 26.72% is considered as correct as the same is based on independent PLF assessment study by third party engineering company. Hence, the PLF considered is correct. However in actual the quantity of net electricity generation supplied by the project plant/unit to the grid would be monitored based on the actual metered reading taken and provided by GETCO on monthly basis.

Thus, it is concluded by validation team that all the applied equations for the calculation of the baseline emission are derived as per the guidelines provided in approved methodology ACM0002, version. 15.0 and Tool to calculate emission factor for an electricity system Version 4.0.

The emission reduction excel calculation sheet<sup>/CER/</sup> submitted was checked by the validation team and found to be correct. The value of combined margin baseline emission factor taken as **0.9750 tCO<sub>2</sub>/MWh** and is fixed ex-ante for entire crediting period. The operating margin is generation weighted for the latest three years and Build Margin was verified with the CO<sub>2</sub> database published by CEA<sup>/CEA/</sup> report version 9.0 was found to be correct.

*Nevertheless, CAR B5 and CAR B6 are raised by validation team and closed successfully.*

## **5.3 Additionality Determination**

### **5.3.1 Consideration of CDM in decision making (if project start before validation)**

This project involves installation of 11 WTGs of 2.0 MW each at Kutch district of Gujarat by Powerica Limited and the electricity generated from the project activity would be supplied to NEWNE regional grid of India.

#### **Consideration of CDM in decision making (if project start before validation)**

The project start date is given as 31/12/2013; the date on which Powerica Limited, issued purchase order to M/s. Vestas Wind Technology India Private Limited (Vestas). Copy of the purchase order has been verified by validation team. As this



document signifies the financial commitment of the PP, considering this as the start date is in accordance with the CDM glossary of terms. Further, during the site visit on validation team has verified that the project implementation has not commenced. Hence the start date considered is appropriate and in line with the CDM guidelines.

The project was webhosted for Global Stakeholder Comment (GSC) on 16/05/2014. The project start date is before the webhosting of PDD for GSC and after 02/08/2008. Therefore, the project falls under 'new project activity'. As required the Project participant has informed UNFCCC and DNA on 08/10/2013 (even before the start date of the project). Since the start date of the project activity is 31/12/2013 (which is after 2 August 2008), the project participant through an email communication has notified the DNA of India and UNFCCC secretariat on 08/10/2013, regarding their intentions to apply for CDM for the project activity. On 08/10/2013, project participant had received the acknowledgement email from UNFCCC secretariat and from DNA of India. Validation team has also verified the notification from the UNFCCC website.

Validation team has also evidenced the CDM consideration from the board approval note dated 17/09/2013 for the project activity, which is before the starting date of the project activity clearly states that the intention is implementation of wind power project in Gujarat. The board approval clearly states that "project activity is feasible only with the consideration of additional revenue by way of selling Certified Emission Reductions". From the documents of discussion of board of directors it is evident that CDM was therefore found to be seriously considered in the decision to proceed with the project activity. Hence, the project is in conformity with Annex 13 of EB 62.

### **Application of methodology / methodological tools**

This is a large scale project activity. Hence, the project developer has applied approved methodology ACM0002 (ver.15.0) and demonstrated additionality based on Tool for the demonstration and assessment of additionality", Version 7.0. The methodology and tool applied are, therefore, correct and appropriate.

It is TUV Nord validation team's opinion that the proposed CDM project activity complies with the requirements of the latest version of the guidance on prior consideration of CDM.

### **5.3.2 Alternatives**

This is a wind power project and is based on the Methodology ACM0002 ver. 15 and the applied methodology ACM0002 version 15.0 specifies that, for the grid connected new renewable power plants, the baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of the grid connected power plants and by the addition of new generation sources, as reflected by the combined margin.



The realistic and credible alternative to the project activity is the project being undertaken without registering it as a CDM activity and equivalent amount of electricity being generated through operation of grid-connected predominantly fossil fuel based power plants and addition of new generation sources. Both alternatives are in compliance with the laws and regulations of India and might be considered as baseline scenarios. However, as discussed in subsequent sections of investment analysis, the project without CDM benefits faces barriers in implementation.

The approved baseline methodology has been correctly applied to identify a complete list of realistic and credible baseline scenarios, and the identified baseline scenario most reasonably represents what would occur in the absence of the proposed CDM project activity.

All the assumption and data used by the project participants are listed in the PDD and/or supporting documents. All documentation relevant for establishing the baseline scenario are correctly quoted and interpreted in the PDD. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable

Validation Team, therefore, concludes that the PDD and the validation report conforms to the guidance given by EB vide paragraph 127 of VVS (Version 07.0). TÜV Nord validation team considers the selected baseline is credible and complete.

However, during the course of validation process CAR B2 is raised by validation team and closed successfully.

### **5.3.3 Investment analysis**

The PP has considered to the investment barrier mentioned in EB 35 Annex 34 to demonstrate additionality and carry out the investment analysis. This has been described in section B.5 of the PDD. The investment analysis has been validated against the requirements of the “Guidelines on assessment of investment Analysis” version 5 (EB 62 Annex 5).

PDD demonstrates that the project would not be economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs). In order to assess the claim of the project developer that the project scenario is not economically feasible without benefits from CER sales, validation team adopted a six-pronged strategy, viz.,

- a) determining the suitability of the investment analysis, benchmark applied and the suitability thereof to the type of financial indicator presented
- b) conducting an assessment of parameters and assumptions used in calculating the financial indicator and determining the accuracy and suitability of parameters;
- c) cross-checking the parameters against third-party or publicly available sources;
- d) reviewing annual financial reports related to the project participant;
- e) assessing the correctness of computations carried out and documented; and



subjecting the critical assumptions of the project activity to reasonable variations to determine under what conditions variations in the result would occur, and the likelihood of these conditions.

### **Benchmark selection**

PDD demonstrates that the project will not be financially feasible, without the revenue from the sale of certified emission reductions (CERs). The claim of the project developer that the project scenario is not economically feasible without benefits from CER sales has been assessed by the Validation Team through the following steps:

The PP has selected benchmark analysis method to demonstrate the additionality as per the “Tool for the demonstration and assessment of additionality” and Guidelines on the assessment of investment analysis EB 62 Annex 5.

As the project activity brings in additional revenues from the supply of electricity to grid via power purchase agreement (PPA)<sup>PPA</sup> for project activity; the alternative to the project activity is the supply of electricity from a grid, project developer has adopted benchmark analysis in conformity with guidance 19 of Annex 5, EB 62.

Project developer has chosen and demonstrated investment barrier by selecting a benchmark and equity IRR as financial indicator. Since in this instant case, as subsequent section would reveal, baseline is outside the direct control of the project developer (grid connected power) and hence, the choice of the project developer is restricted to “invest or not to invest”, the benchmark approach is most suited as per Guidance 16 of Annex 5 of EB 62. And hence post-tax equity IRR is one of the financial indicators recommended by Additionality Tool for additionality demonstration. Therefore, the investment analysis and the financial indicator are considered appropriate for the project type and decision making context. Hence, post-tax equity IRR is considered as correct and appropriate.

**Benchmark calculations:** The guidance to investment analysis issued in EB 62 (Annex 5, paragraph 12) states that in cases where a benchmark approach is used the applied benchmark shall be appropriate to the type of IRR calculated. Cost of Equity (CoE) & Weighted Average Costs of Capital (WACC) are appropriate benchmarks for Equity IRR and Project IRR respectively. Internal company benchmark is not applicable as there are more than one project developer and thus as per para 15, the benchmark is based on parameters that are standard in the market. In webhosted and final PDD submitted for registration project proponent has applied the benchmark applied for the project activity as the expected returns on equity which is calculated based on the guidance 15 of “Guidelines on the assessment of investment analysis”, EB 62, Annex 5 which comes out to be 18.01%.

As per appendix A of the investment guidance project proponent has calculated the benchmark for the project activity based on the default value for the expected return on equity, as provided in Appendix of EB 62, Annex 5. Since, the project activity falls under Host Country India, Group 1 (S. No. 1. Energy Industries) hence the real value



for expected return on equity is 11.75%. As the investment analysis is carried out in nominal terms, this value has to be converted to nominal values by adding the inflation rate of 5.60%, which is the mean value of Whole Price Index (WPI) as forecasted by Reserve Bank of India for 10 years period. Accordingly, the resulted benchmark (as per EB 62, Annex 5) considering this approach arrived at a value of 18.01% which is correct and appropriate.

Therefore, the validation team confirms the benchmark value of 18.01% chosen by PP at the time of investment decision making to be appropriate and reasonable. Validation team cross-checked the financial additionality of the project activity by comparing the Equity IRR against default value based return on equity from “Appendix of Default values for the expected return on equity” of EB 62, Annex 5, Page 7-the value calculated is 11.75%. The default value relevant for the project activity is 11.75% and the appropriate inflation rate is 5.90 % (RBI projected inflation rate expected over the next ten years i.e. duration of crediting period).

Hence as per para 7 of the appendix to “Guidelines on the assessment of investment analysis”, EB 62, Annex 5 the return on equity (RoE) in nominal term value comes out to be as:

$$= (1 + \text{Default Return on Equity as per EB 62, annex 5, in real term}) \times (1 + \text{Inflation rate}) - 1$$
$$= (1 + 11.75\%) \times (1 + 5.60\%)^3 = 18.01\%$$

Therefore, the benchmark considered by the PP during investment decision making is correct and appropriate. As per EB 62 annex 5 using RBI data for 10 year inflation rate in the host country has been correctly. Thus, the benchmark value of 18.01% as per EB 62 annex 5 is calculated for the project activity is reasonable and acceptable.

Additionally, PDD explains in details the sources of data, methodology adopted and the conservativeness of the benchmark selected. Validation team checked the data and found that the data used are from reliable and credible sources, methodology adopted is correct and the calculations are in order. The benchmark chosen is suitable for the type of financial indicator selected, and is in conformity with the Additionality Tool, guidance 12 of Annex 5, EB 62 and also VVS version 7.0.

Financial indicator calculation is based on the offer letter and GERC tariff orders, which were available at the time of decision making. Copies of all the documents as referred in table 7 of this report have been submitted to DOE. Validation team checked the values with the documents furnished by PP and also those publicly available. The input parameters used, basis thereof and appropriateness of the input parameters used are given in Annex 4. CARs/CLs have been raised on non-conformities and errors and they have been duly corrected. After closure of all CARs/CLs, validation team arrived at the conclusion that the assumptions and computations in the IRR spreadsheet are in conformity with guidance 6 of Annex 5, EB 62 read with paragraphs 95 and 111 of VVS.

<sup>3</sup> <http://www.rbi.org.in/scripts/PublicationsView.aspx?id=15099>



The financial indicator – post-tax equity IRR works out to 9.31%, which is lower than the benchmark value of 18.01%. Selected input parameters, viz., generation, power cost, O&M cost, tariff have been subjected to variation of  $\pm 10\%$  in conformity with guidance 20 and 21 of Annex 5, EB 62 and the results are given below:

Parameters	-10%	Baseline	+10%
Project Cost	13.23%	9.31%	6.20%
Tariff	5.74%	9.31%	12.84%
Generation	5.74%	9.31%	12.84%
O&M Cost	9.87%	9.31%	8.41%

The analysis and the results reveal that the financial indicator does not equal the benchmark even when the critical parameters are subjected to reasonable variation. Further analysis reveals that for the financial indicator to equal the benchmark, when

Parameter	Breaching Value
Project Cost	Decreased by 17.75 %
Tariff	Increased by 22.5 %
Generation	Increased by 22.5 %
O&M Cost	Decrease by 145 %

For the project activity; an increase in PLF by 22.5% will tantamount to WTGs achieving PLF of 32.73% on a sustained basis for 20 years. Therefore, the possibility of achieving PLF of 33% on sustained basis for 20 years is ruled out. Hence the validation team confirmed that the achieving of cross over PLF is not possible.

The actual project cost of the project is approximately 7.12% less than the cost reckoned in the financial indicator which is as per the offer submitted by the technology supplier at the time of investment decision making time. Post-tax equity IRR reaches benchmark only if the cost of project is reduced by 17.75%. Furthermore, since the project activity is operational and the costs have already been incurred by the project participant, validation team has reviewed the purchase orders issued by the PP and confirmed that the actual project costs within the sensitivity range considered. Purchase orders submitted by project proponent are verified by validation team to confirm the same. Since the project has already been implemented any reduction in the capital cost is hypothetical. Hence, the occurrence of any of the above mentioned events is hypothetical.

O&M cost is not at all critical as even a 100% reduction in O&M cost does not render the project non-additional. A decrease in O&M cost to zero is not feasible considering the high inflation rate in the host country and without periodic maintenance, operation of WTG is not possible. Since the PP had already committed to the O&M service provider with an annual escalation of 5% from 2<sup>nd</sup> year onwards there is no possibility for reduction in the O&M cost.



Project participant had considered INR 4.15/kWh as electricity tariff fixed for 20 years of project's lifetime. It is checked and confirmed from Comprehensive Tariff Order on Wind Energy by Gujarat Electricity Regulatory Commission dated 08/08/2012 ([http://www.gercin.org/renewablepdf/en\\_1344430244.pdf](http://www.gercin.org/renewablepdf/en_1344430244.pdf)). Since, it was available and applicable at the time of conceptualization of the project activity, paragraph 6 of EB 62 Annex 05 is followed and it is accepted. To further cross-check the appropriateness of the electricity tariff, Power Purchase Agreement<sup>/PPA/</sup> has been checked out and entire power generated will be exported to grid for which necessary PPA has been entered into with Gujarat Urja Vikas Nigam Ltd (GUVNL). Moreover, the sensitivity analysis reveals that any increase in tariff by 22.5% for the entire life of the project activity is unlikely to render the project non additional

In summary the validation team concluded that the project activity complies with all relevant additionality requirements and deemed the investment barrier to be significant in order to prevent the project activity from being implemented without additional revenues from CERs.

#### **5.3.4 Barrier analysis**

Investment barrier through investment analysis is identified for this project activity to prove additionality. The same is detailed in the above sections. No other barrier analysis is considered for this project activity

#### **5.3.5 Common practice analysis**

Common practice analysis of the project activity has been performed as per Common practice guideline, ver 02.0 (EB 69, Annex 8).

**Step 1:** The installed capacity of the project activity being 22.0 MW, the applicable range for the common practice analysis is ( $\pm 50\%$  of the capacity) is 11 MW (50% of installed capacity) to 33 MW (150% of installed capacity).

**Step 2:** As per the para 1 of the Common practice guideline, the project proponent has chosen the entire host country as the geographical area for the purpose of common practice analysis and considered electricity generation using wind energy is an output. The total number of power plants, operating at the time of project start date, within the capacity range of 11 MW to 33 MW has been verified from the Wind Power Directory 2013, Volume 1. Therefore, the total number of the project identified (both CDM & non- CDM) with the installed capacities in the range outlined above are 184 are valid and correct.

**Step 3:** Nall: As verified from the UNFCCC webpage out of these 184 projects 92 projects are either registered CDM projects or undergoing CDM validation activities. Therefore, **Nall comes out to be 92.**



**Step 4:** Ndiff has been calculated based on the different investment climate in the host country. Wind power projects which are different wind policies and tariffs (from state to state) have been considered. Validation team has checked the policies/tariff for states which are regulated by the respective State Electricity Regulatory Commission in India. The power project installed by Powerica Limited is located in Gujarat state of India. Therefore, projects installed in other states except Gujarat state have been considered in Ndiff calculation.

Therefore, Ndiff = 84.

**Step 5:** As aforementioned, Nall is 92 and Ndiff is 84. Hence,

1.  $F = 1 - \text{Ndiff}/\text{Nall} = 1 - (84/92) = 0.087$
2.  $\text{Nall} - \text{Ndiff} = 92 - 84 = 8$

As per paragraph 10 of the EB 69 Annex 8 i.e. Guidelines on Common Practice (Version 02.0); the project activity would be a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and Nall-Ndiff is greater than 3. And as per step 5 above since the factor F was calculated as  $F = 1 - \text{Ndiff} / \text{Nall} = 0.087$ , which is below 0.2. Hence it was validated that the Project is not common practice within the sector in the geographical area. .

## 5.4 Monitoring Plan

The project activity applies the monitoring methodology ACM0002 ver. 15 which is latest applicable version of the methodology. As per the applied methodology of the monitoring methodology, the following parameters have to be monitored during the crediting period for the calculation of the emission reduction by the project activity,

- CO2 Emission Factor of the grid electricity in the year y
- Quantity of net electricity supplied to the grid year y

The determination of the grid emission factor has already been discussed in the above section 5(c) and ex-ante method has been selected by the PP.

Since, the project applies monitoring methodology ACM0002 ver.15.0 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” and as per the methodology, monitoring shall consist of metering the quantity of net electricity generation supplied by the project plant/unit to the grid by the renewable technology installed by the project proponent. All the wind mills of the project activity are located in Gujarat state of India, and form a part of one wind farm.

As verified during the site visit, monitored parameter  $EG_{\text{facility, y}}$  i.e. Quantity of net electricity generation supplied by the project plant/unit to the grid (**MWh/year**) is measured by the meter installed at the local meter i.e. (transformer yard meter of



each WTG) and pooling substation jointly by representatives of GETCO/GEDA and by Vestas on behalf of PP. The procedures for metering will be as per the provisions of power purchase agreement (PPA). The WTGs of a single customer (Powerica Limited in this case) at a particular site are connected to a local meter i.e. (transformer yard meter of each WTG) which in turn connects to the feeder that ultimately leads to the GETCO meter (ABT meter) at the pooling substation maintained by Vestas. Electricity measurement is continuous and recorded in monthly basis at transformer yard meter of each WTG as well as at pooling substation. The electricity metered at the GETCO ABT meter is proportionally divided among the customers (including Powerica Limited) connected to the meter on the basis of the pro-rata readings taken at the transformer yard meter of each WTG. Based upon the readings taken by GETCO/GEDA representative a monthly share certificate of electricity generation<sup>/EGS/</sup> is issued by SLDC (State Load Dispatch Centre), GETCO to the PP. The monitoring system and metering procedure is verified by validation team during the site visit and interview with the project proponent & O&M site personnel is found to be correct and accurate. The approach thus adopted by project proponent will lead to correct and accurate measurement of the monitored parameter  $EG_{\text{facility, y}}$  i.e. Quantity of net electricity generation supplied by the project plant/unit to the grid (**MWh/year**) as per applied monitoring methodology.

The procedure to monitor the net electricity generation supplied by the project plant/unit to the grid is explained in section B.7 of the PDD and was assessed to be appropriate and correct and acceptable to validation team. The OM and BM are calculated as fixed for the whole period by choosing data vintage<sup>/CEA/</sup> based on ex-ante monitoring published by CEA. Hence data needed to recalculate OM and BM does not apply in this case. All the monitored data will be archived electronically for a period of 2 years after the crediting period.

Accuracy, calibration, periodical testing and maintenance procedures of monitoring equipment are clearly mentioned in the section B.7.1 of PDD<sup>/PDD/</sup>. Validation team has reviewed the same and is convinced that the same is adequate and will lead to correct measurement of the net electricity exported to the grid. Also the SLDC, GETCO is a State governmental body and monthly share certificate of electricity generation issued by SLDC is used for commercial purpose and is authentic and correct.

All the wind mills of project activity are falling under same wind farm so measurement and monitoring procedures for delivering net export of power to the grid remains same for all WTG and is verified during site visit. The validation team hereby confirms that the project participant is able to implement the monitoring plan as described above in accordance with the applied monitoring methodology.

The PDD confirms that all the monitored data will be archived for a period of 2 years after the crediting period or last issuance whichever is later. The monitoring plan includes the internal quality control and assurance process, data control system and



regular calibration of the monitoring instruments as appropriate that will ensure reliable monitoring and reporting of the emission reductions.

However, during the course of validation process CAR B5 and CAR B6 are raised by validation team and closed successfully.

## 5.5 Crediting Period

As described in section C.2 of the PDD<sup>/PDD/</sup>, crediting period chosen is 10 years fixed period starting from 01/10/2014 or the date of registration of the project under UNFCCC, whichever is later would be considered as the start date for the crediting period. Start date of the crediting period chosen is correct, realistic and appropriate.

## 5.6 Environmental Impacts

The project activity is expected to have positive impacts and no significant adverse environmental impact due to project activity is foreseen since the proposed project is a renewable energy (wind energy) project with no project emissions. There is no mandatory legal requirement for carrying out EIA for wind power projects, which was verified by means of EIA notification dated 14 September 2006, of MoEF. However, the validation team has verified all the clearances like statutory clearances; and Power Purchase Agreements for all the WTGs.

The validation team confirms that all the clearances obtained are in accordance with the procedures required by the host party. The validation team concludes that the environmental impact by the project activity is been assessed by the project proponent and the same is stated in the PDD. To confirm the impact associated with the project proponent, the validation team has physically inspected during the on-site visit and also through conducting the relevant stakeholders.

## 5.7 Comments by Local Stakeholders

Validation team considers the local stakeholder consultation carried out adequately. A Local Stakeholders meeting was carried out by the project proponent on 10/01/2014 which was prior to the publication of PDD on the UNFCCC website. The local stakeholders were invited through Public notice and also formal invitation. People from the local village, technology supplier and consultant attended the local stakeholders meeting. Stakeholders were directly asked to comment on the project through an open meeting among local stakeholders. A summary of the comments received and a note on how due account was taken of the concerns raised in the above public consultation are included in section E of the PDD. From the background of the stakeholders, it was reasonably believed that the general attitude of the local residents, who were likely to be affected by the project, was positive towards the project.



During the onsite visit, representatives from the local community were interviewed. In general, the interviewees showed adequate understanding of the nature of the project and felt that there would be no adverse impacts on the environment arising from the project activity.

The validation team confirms that the process for conducting the local stakeholders meeting is adequate and credible.

Nevertheless, during the course of validation process CAR E1 is raised by validation team and closed successfully.

## 5.8 Participation

### 5.8.1 Project Participants

Project participant Powerica Limited is correctly specified in section A.3, annex-I of the PDD as per Host Country Approval<sup>HCA</sup> received from DNA of India (party to Kyoto protocol). Host country approval was checked by DOE and found that it confirms the EB guidelines.

### 5.8.2 LOA

Host Party for this project activity is India. India has ratified the Kyoto protocol in August 2002. Same has been confirmed from the UNFCCC web site link [http://unfccc.int/kyoto\\_protocol/status\\_of\\_ratification/items/2613.php](http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php). Host country approval (HCA) letter<sup>HCA</sup> no.4/1/2014-CCC dated 03/09/2014 issued by DNA of India confirm voluntary participation by Powerica Limited in proposed CDM project activity entitle “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” in Gujarat state of India. Host country approval was checked by DOE and found that it confirms the EB guidelines and contributes sustainable development in India.

However, during the course of validation process CAR F2 is raised by validation team which is closed successfully.

### 5.8.3 MoC

MoC was submitted by the PP to validation team and same is verified by validation team to confirm that the:

- Powerica Limited is the sole focal point and the information is filled in accordance with the MoC form F-CDM-MOC and the requirements of the procedures.
- No modifications were made to the template and date is clearly specified



- 
- Title of project and names of project participant and focal point is consistent with other project documents shared/submitted by PP
  - The information is filled in in accordance with the MoC form F-CDM-MOC and the requirements of the procedures.

However, during the course of validation process CL F1 and CL F2 are raised by validation team and closed successfully.

## **5.9 PDD editorial Aspects**

Latest version 4.1 of small scale CDM-SSC-PDD format is used by Project Participant and filled up as per the guidelines for completing CDM-SSC-PDD available in UNFCCC website.



## 6 VALIDATION OPINION

**Powerica Limited** has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: “**21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited**” with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board

In the course of the pre-validation 12 Corrective Action Requests (CARs) and 03 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The project is in line with all relevant host country criteria (India) and all relevant UNFCCC requirements for CDM. Further the project activity is in compliance with the requirements set up by the applied approved CDM methodology ACM0002, ver 15.0 Project activity approval have been obtained from DNA of India vide the Letter of Approval (HCA) dated Letter of Approval (HCA) dated 03/09/2014.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 50,207 t CO<sub>2</sub>e are most likely to be achieved within the fixed crediting period.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Vadodara, 25/09/2014

A handwritten signature in black ink, appearing to read "P. O. P. Patel".

Mr. Pankaj Patel  
TÜV NORD JI/CDM CP  
Validation Team Leader

Essen, 25/09/2014

A handwritten signature in black ink, appearing to be a stylized name.

TÜV NORD JI/CDM CP  
Final Approval



## 7 REFERENCES

**Table 7-1:** Documents provided by the project participant

Reference	Document
<b>/ACT/</b>	<ul style="list-style-type: none"> <li>• Companies Act, 1956</li> <li>• Income Tax Act 1961</li> <li>• Income Tax Rules</li> </ul>
<b>/CC/</b>	Commissioning certificate dated 02/07/2014 (8 number of WTG * 2 MW=16 MW) and 17/07/2014 (3 number of WTG * 2 MW=6 MW) of the all the 11 WTGs including the project activity.
<b>/CER/</b>	<ul style="list-style-type: none"> <li>• Emission reduction calculation sheet for project activity w.r.t PDD version 1.0</li> <li>• Emission reduction calculation sheet for project activity w.r.t PDD version 2.0</li> <li>• Emission reduction calculation sheet for project activity w.r.t PDD version 3.0</li> <li>• Emission reduction calculation sheet for project activity w.r.t PDD version 4.0</li> </ul>
<b>/CPA/</b>	Common Practice Analysis (CPA) sheet for the project activity.
<b>/EGS/</b>	<ul style="list-style-type: none"> <li>• Sample copies of the Electricity Generation statement.</li> <li>• Actual power generation of WTGs of Powerica Limited of other project located in Kutch district of Gujarat (same location)</li> </ul>
<b>/HCA/</b>	Host Government Approval from Ministry of Environment & Forests, Government of India dated 03/09/2014.
<b>/IP/</b>	Insurance premium receipt for old project owned by Powerica Limited issued by Tata AIG General Insurance Company dated 14/01/2013 and 04/02/2013.
<b>/LS/</b>	Loan Sanction letter issued by Standard Chartered bank to Project Proponent dated 10/04/2014
<b>/MD/</b>	Certified true copy of the board resolution passed by Board of directors of Company i.e. Powerica Limited for investment in wind power project dated 17/09/2013
<b>/MOC/</b>	Modalities of Communication form



Reference	Document
<b>/O&amp;M/</b>	Operation and maintenance contract signed between PP and M/s Vestas Wind Technology India Private Limited (Vestas) dated 08/01/2014.
<b>/OFF/</b>	<ul style="list-style-type: none"> <li>• Proposal (including O&amp;M offer also) from M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited via proposal dated <u>18/07/2013</u>.</li> <li>• Proposal for Balance of plant i.e. Civil work, Construction of approach road, transformer and electrical lines from M/s Kintech Synergy (P) Ltd to M/s Powerica Limited via proposal ref. no KSPL/CR15073/017C dated 07/07/2013.</li> </ul>
<b>/PLF/</b>	Third Party PLF Assessment report and addendum prepared by M/s AWT Energy Private Limited for 21.8 MW Project dated 30/07/2013.
<b>/PI/</b>	<ul style="list-style-type: none"> <li>• Prior Intimation by M/s Powerica Limited to UNFCCC via email dated 08/10/2013 and acknowledged by UNFCCC via email dated 08/10/2014..</li> <li>• Prior Intimation by M/s Powerica Limited to Indian DNA via email dated 08/10/2013</li> </ul>
<b>/P-Life/</b>	Certificate from DNV (Det Norske Veritas) dated 09/03/2012 as evidence for technical lifetime of the WTGs included in the project activity
<b>/PDD/</b>	<ol style="list-style-type: none"> <li>1. Webhosted Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.1.0 dated 15/04/2014 webhosted on 16/04/2014</li> <li>2. Revised Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.2.0 dated 08/07/2014.</li> <li>3. Revised Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.3.0 dated 11/08/2014.</li> <li>4. Final Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.4.0 dated 16/09/2014.</li> </ol>
<b>/PO/</b>	<ul style="list-style-type: none"> <li>• Agreement for WTG erection, supply and commissioning signed between PP and M/s Vestas Wind Technology India Private Limited (Vestas) dated 31/12/2013.</li> <li>• Purchase Order for Balance of plant i.e. Civil work, Construction of approach road, transformer and electrical lines signed between PP and M/s Kintech Synergy (P) Ltd.</li> <li>• and sale deed signed between Powerica Limited and M/s Vestas Wind Technology India Private Limited (Vestas) for dated 07/03/2014; 27/03/2014</li> </ul>
<b>/PPA/</b>	Power Purchase Agreement signed by PP with GUVNL dated 10/06/2014.
<b>/ISC/</b>	<ul style="list-style-type: none"> <li>• GEDA permission letter for setting up the project activity to PP dated</li> </ul>



Reference	Document
	26/05/2014. <ul style="list-style-type: none"> <li>Power evacuation approval given by GETCO to the Vestas Wind Technology India Pvt. Ltd (on behalf of PP) dated 18/02/2014</li> </ul>
<b>/SHCP/</b>	Proof of local stake holders consultation process held on 10/01/2014 <ol style="list-style-type: none"> <li>Public notice and personnel invitation letter dated 04/01/2014</li> <li>Stakeholder Meeting attendance sheet date 10/01/2014</li> <li>Minutes of meeting dated 10/01/2014</li> <li>Photographs of local stakeholders attended the meeting</li> </ol>
<b>/TS/</b>	Certificate from DNV (Det Norske Veritas) dated 09/03/2012 for technical specification of the 2000 kW Wind Turbine Generator (WTG) included in the project activity.
<b>/TUV-C/</b>	Contract signed between M/s Powerica Limited and DOE for carrying out the validation of CDM project dated 07/02/2014.
<b>/XLS/</b>	<ul style="list-style-type: none"> <li>Spreadsheet with respect to Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.1.0 dated 15/04/2014 webhosted on 16/04/2014.</li> <li>Spreadsheet with respect to Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.2.0 dated 08/07/2014.</li> <li>Spreadsheet with respect to Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.3.0 dated 11/08/2014.</li> <li>Spreadsheet with respect to Final Project Design Document titled “21.8 MW Wind Power project at Jangi Vandhiya, Gujarat by Powerica Limited” ver.4.0 dated 16/09/2014.</li> </ul>

**Table 7-2:** Background investigation and assessment documents

Reference	Document
<b>/ACM/</b>	ACM0002, ver 15.0: Grid Connected Renewable Electricity Generation
<b>/CPM/</b>	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
<b>/GCP/</b>	UNFCCC: Guidelines for completing the project design document form for small-scale CDM project activities EB 66 Annex 09.
<b>/IPCC/</b>	<ul style="list-style-type: none"> <li>IPCC Good Practice Guidance &amp; Uncertainty Management in National Greenhouse Gas Inventories, 2000</li> <li>Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories:</li> </ul>



Reference	Document
	Reference Manual
<b>/KPI/</b>	Kyoto Protocol (1997)
<b>/MA/</b>	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
<b>/TA/</b>	<ul style="list-style-type: none"> <li>• Tool for the demonstration and assessment of additionality Ver. 7.0 of EB 70 annex 08</li> <li>• Guidelines on the assessment of investment analysis Ver.7.0 of EB 62 Annex05</li> <li>• Guidelines for the reporting and validation of plant load factors Ver.1.0 EB48 Annex11</li> <li>• Combined tool to identify the baseline scenario and demonstrate additionality version 5.0 of EB 70 annex 09.</li> </ul>
<b>/GERC/</b>	<ul style="list-style-type: none"> <li>• Wind Power Policy 2013 dated 25/07/2013 , <a href="http://geda.gujarat.gov.in/policy_files/Wind_Power_Policy-2013.pdf">http://geda.gujarat.gov.in/policy_files/Wind_Power_Policy-2013.pdf</a></li> <li>• <a href="http://www.gercin.org/renewablepdf/en_1344430244.pdf">http://www.gercin.org/renewablepdf/en_1344430244.pdf</a></li> </ul>
<b>/VVS/</b>	Validation and Verification Standard (Version 07.0, EB 79, Annex 4)

**Table 7-3:** Websites used

Reference	Link	Organisation
<b>/CEA/</b>	<a href="http://www.cea.nic.in/planning/c%20and%20e/government%20of%20india%20website.htm">http://www.cea.nic.in/planning/c%20and%20e/government%20of%20india%20website.htm</a>	Central Electricity Authority
<b>/DNA/</b>	<a href="http://www.cdminia.nic.in">http://www.cdminia.nic.in</a>	Ministry of Environment and forests (DNA of India)
<b>/GERC/</b>	<a href="http://www.gercin.org">http://www.gercin.org</a>	Gujarat Electricity Regulatory Commission
<b>/GEDA/</b>	<a href="http://www.geda.org.in/">http://www.geda.org.in/</a>	Gujarat Energy Development Agency
<b>/IPCC/</b>	<a href="http://www.ipcc-nggip.iges.or.jp">www.ipcc-nggip.iges.or.jp</a>	IPCC publications
<b>/IT/</b>	<a href="http://law.incometaxindia.gov.in/DIT/Income-tax-acts.aspx">http://law.incometaxindia.gov.in/DIT/Income-tax-acts.aspx</a>	Income Tax Act, 1961 Income tax fourth Amendment rule,2012
<b>/RBI/</b>	<a href="http://www.rbi.org">www.rbi.org</a>	Reserve Bank of India



Reference	Link	Organisation
/UNFCCC/	<a href="http://cdm.unfccc.int">http://cdm.unfccc.int</a>	United Nations Framework Convention on Climate Change

**Table 7-4:** List of interviewed persons

Reference	Mol <sup>1</sup>		Name	Organisation / Function
/IM01/	T, E, V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Saroj Sahoo	M/s. Powerica Limited/ Manager: Carbon & Energy
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Jitesh Visavadia	M/s. Powerica Limited/ Sr. Manager: O&M
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Tanaji Patil	M/s. Powerica Limited/ Manager, Projects
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Dipak Sarvaliya	M/s. Powerica Limited/ Assistant Manager
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Mohan Bhai Barot	Village: Vandhiya/ Local Stakeholder
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Hansraj N Dangar	Village: Vandhiya/ Local Stakeholder
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Asvin Patel	Village: Vandhiya/ Local Stakeholder

<sup>1)</sup> Means of Interview: (Telephone, E-Mail, Visit)

# ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Applicability  
Criteria
- A3:** Assessment of Baseline  
Identification
- A4:** Assessment of Financial  
Parameters
- A5:** Assessment of Barrier analysis



---

**A6:** Outcome of the GSCP

**A7:** Statement of competence of  
involved Personnel



## ANNEX 1: VALIDATION PROTOCOL

**Table A-1: Requirements Checklist**

Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<b>A. General Description of Project Activity</b>				
<b>A.1. Technology to be employed</b> <i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i>				
<p>A.1.1. Does the PDD contain a clear, accurate and complete project description? (VVS, §§ 64, 69) <i>The PDD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation.</i></p>	/PDD/ /PO/ /TS/	<p><i>Description:</i> Project activity<sup>4</sup> involves installation and operation of total number of 11 WTGs in Kutch districts of the state Gujarat of India respectively. Project activity falls under Type-I, renewable energy Projects as the project activity involves the installation of 11 Wind Turbine Generators (WTGs) of rated capacity of 2.0 MW (10 number) and 1.8 MW (one number) each with a total capacity of 21.8 MW. The description of the</p>	CAR A1	OK

<sup>4</sup> As verified during the site visit and interview with the site personal, project activity is expected to be get commissioned by September 2014.



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p><i>Pl. consider esp. chapters A.1, A.3 (in case of LSC PDD) for assessment.</i></p> <p><i>§69 (a) Describe the process undertaken to validate the accuracy and completeness of the project description.</i></p> <p><i>§69 (b) Contain the DOE's opinion on the accuracy and completeness of the project description.</i></p>		<p>project activity has been provided properly in section A.2 and of the PDD<sup>/PDD/</sup>.</p> <p>However, technical specification of the WTG given in page 5 of the PDD does not mention the technical specification of 1.8 MW model WTG.</p> <p>Also, in mentioned in page 3 of the PDD regarding the monitoring plan for expenditure; same is missing in annexures of the PDD.</p> <p>As verified during the site visit; review of the WTG layout diagram and interview with the site personal; WTG number JM08 is not involved in project.</p> <p>Justification of evidences: Validation team has reviewed the technical specifications<sup>/TS/</sup>, Purchase orders<sup>/PO/</sup> of the technology supplied by M/s Vestas Wind Technology India Private Limited (hereafter referred as Vestas) and convinced that the description provided under section A.2 of the PDD is clear, accurate and sufficient.</p> <p>Conclusion: CAR A1 is raised in this regard.</p>		
<p>A.1.2. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the project will be implemented acc to the project description?</p>	<p>/PO/ /TS/ /PDD/</p>	<p><i>Description:</i> Project activity is a green field project. As verified during site visit by validation team; as on date the project is not yet commissioned PDD<sup>/PDD/</sup>.</p> <p><i>Justification of evidences:</i> Validation team has verified the same by conducting site visit and review of the purchase orders<sup>/PO/</sup>, and technical specification<sup>/TS/</sup> of the WTGs.</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<i>Conclusion:</i> The validation team concludes that the project a not yet commissioned <sup>5</sup> as it has been described in section A.4.2 of the PDD <sup>/PDD/</sup> .		
<p>A.1.3. In case the project involves alteration of the existing installation or process, is a clear description available regarding the differences between the project and the pre-project situation?</p> <p>(VVS, § 68) <i>Describe the steps taken to validate this issue.</i></p>	/PO/ /TS/	<p><i>Description:</i> The project activity is a green field project and does not involve alteration of the existing installation.</p> <p><i>Justification of evidences:</i> The same has been confirmed during site visit and document review<sup>/PO/TS/</sup>.</p> <p><i>Conclusion:</i> The validation team concludes that the project activity is a green field project and no alteration of the existing installation in involved.</p>	OK	OK
<p><b>A.2. Small scale project activity</b></p> <p><i>It is assessed whether the project qualifies as small-scale CDM project activity</i></p>				
<p>A.2.1. Does the project fall within the small scale project activity threshold and applies a large-scale approved methodology? In this case, are the modalities and procedures for large-scale project activities followed?</p> <p>(VVS, § 151)</p>	/PDD/ /UNFC CC/	<p><i>Description:</i> The project activity involves the installation of 11 Wind Turbine Generators (WTGs) of rated capacity of 2.0 MW (10 numbers) and 1.8 MW (one number) with a total capacity of 21.8 MW in Gujarat state of India thus falls in large scale category. Project proponent has correctly applied the large scale methodology in the proposed project activity.</p> <p><i>Validator's action:</i> Project Design Document (PDD), same is</p>	OK	OK

<sup>5</sup> During the course of validation process and closure of finding process, all 11 WTGs of the project were commissioned on 12/06/2014 (5 WTGs), 14/06/2014 (3 WTGs), 25/06/2014 (2 WTGs) and 08/07/2014 (1 WTG).



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		verified by validation from CDM modalities and procedure.  <i>Conclusion:</i> Thus, it is concluded by validation team the project activity qualifies as large scale project activity and hence applicability if large scale methodology is no more applicable.		
In case of project activities applying a LSC-Methodology, go to B.1				
A.2.2. Does the project qualify as a small scale CDM project activity as defined in decision 4 / CMP.1 annex II?  (VVS, §§ 150–152) <i>Please indicate whether the project activity meets the eligibility criteria for small scale-projects. Specially consider whether the project qualifies within the thresholds of the three possible types of small-scale project activities</i>	/PDD/	<i>Description:</i> As defined in decision 4/CMP.1 Annex II, renewable energy projects more than 15 MW capacity qualify for large scale project. Proposed CDM project activity involves setting up of wind mills having installed capacity of 21.8 MW which is more than 15 MW and hence it qualifies as large scale CDM project activity.  <i>Justification of evidences:</i> The capacity of the project activity has been confirmed by the review of various documents <sup>/PO/PPA</sup> .  <i>Conclusion:</i> Thus, it is concluded by validation team that the project qualifies as a large scale project activity.	OK	OK
A.2.3. Does the project apply one of the approved small scale categories and any methodology and tool referred therein?  (VVS, § 152 (b)) <i>Check, if applicable the expiry dates of the applied methodology.</i>	/PDD/ /UNFC CC/ /ACM/	<i>Description:</i> Project activity correctly applies approved methodology ACM0002, VER. 15.0, and tool to calculate emission factor for an electricity system ver.4.0. Description for the same is given in section B.1/B.2 of the PDD <sup>/PDD/</sup> .  <i>Justification of evidences:</i> Validation has reviewed approved	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>Further, take into consideration the general guidance to the methodologies<sup>6</sup>, which provide guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i></p>		<p>methodology ACM0002, VER. 15.0<sup>/ACM0002, VER. 15.0/</sup> and tool to calculate emission factor for an electricity system, ver.3.0 available on UNFCCC web site<sup>/UNFCCC/</sup> and confirmed that the version of the methodology and the tool used is valid.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the project applies the methodology, ACM0002, VER. 15.0 which is an approved small scale methodology. The tools referred in the methodology are also used correctly applied by project proponent.</p>		
<p>A.2.4. Is the small scale project activity not a debundled component of a larger project activity?  (VVS, §§ 154-157) <i>Describe the steps taken to assess whether the project activity is not a debundled component of a large scale activity, in accordance to the “Guidelines on assessment of debundling for SSC project activities”...</i></p>	/UNFCCC/	<p><i>Description:</i> The project activity is large scale project with total installed capacity of 21.8 MW.</p> <p><i>Justification of evidences:</i> Validation team has reviewed EB-54, Annex-13<sup>/UNFCCC/</sup> and also carried out Interview during the site visit.</p> <p><i>Conclusion:</i> The validation team concludes that the project is a large scale project activity.</p>	OK	OK
<p><b>B. Project Baseline, Additionality and Monitoring Plan</b></p>				

<sup>6</sup>See EB 54 report, paragraph 37 and the latest “General guidelines to SSC methodologies” for further clarification.



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<b>B.1. Reference of the Methodology</b>				
B.1.1. Does the PDD correctly quote an applicable version of the methodology?  (VVS, § 74)	/ACM/ /PDD/	<input checked="" type="checkbox"/> The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website.  <input checked="" type="checkbox"/> The applied version of the baseline and monitoring methodology is applicable and valid at the time of submission for stakeholder consultation.	OK	OK
<b>B.2. Applicability of the Methodology</b>				
B.2.1. Does the project apply an approved and applicable CDM methodology and a valid version thereof?  (VVS, §§ 70, 74, 76, 77) <i>Describe the steps taken to validate this issue.</i>  <i>Describe for <u>each</u> applicability criterion listed in the selected approved methodology the steps taken to assess its fulfilment</i>	/ACM/ /UNFCCC/	<input checked="" type="checkbox"/> The applied methodology is correctly quoted and is identical to the version available on the UNFCCC Website.  <input checked="" type="checkbox"/> The applied version of the baseline and monitoring methodology is valid at the time of submission for stakeholder consultation.  <input type="checkbox"/> All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled (please make detailed assessment in Annex 2 of this protocol).  However, applicability criteria number 9 as mentioned in the methodology ACM0002 ver.14 is missing in section B.2 of the PDD.	CAR B1	OK

Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.2.2. In case one or more applicability criteria have not been met, has the validation team requested clarification to, revision of or deviation from the methodology in accordance with the latest guidelines?</p> <p>(VVS, §§ 78-81)</p>	<p>/ACM/ /PDD/</p>	<p><i>Description:</i> All of the applicability criteria as set forth in the applied methodology ACM0002, VER. 15.0 are fulfilled by the proposed project activity.</p> <p><i>Validator's action:</i> PDD has been reviewed by validation team and check with the applicability criteria as mentioned in the applied methodology ACM0002, VER. 15.0.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that project activity fulfils all of the applicability criteria as mentioned in the applied methodology ACM0002, VER. 15.0.</p>	<p>OK</p>	<p>OK</p>
<p><b>B.3. Project Boundaries</b></p> <p><i>Project Boundaries are the limits and borders defining the GHG emission reduction project</i></p>				
<p>B.3.1. Are the project's spatial boundaries (geographical) clearly defined?</p> <p>(VVS, §§ 72 (a), 82)</p> <p><i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	<p>/ACM/ /CEA/ /PDD/</p>	<p><i>Description:</i> The project's spatial boundaries are defined in the section B.3 of the PDD<sup>/PDD/</sup>.</p> <p><i>Justification of evidences:</i> Validation team has performed site visit, CO<sub>2</sub> Baseline Database for the Indian Power Sector, version 9.0 of Central Electricity Authority<sup>/CEA/</sup> Project design Document<sup>/PDD/</sup> and confirmed that the physical delineation of the CDM project activity power plant.</p> <p><i>Conclusion:</i> Thus it is concluded by validation team that the project's spatial boundaries (geographical) clearly defined in the PDD and also in line with the para 9 of the applied methodology.</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.3.2. Are all sources and GHGs included in the project boundary as required in the applied methodology?</p> <p>(VVS, §§ 82, 84) Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</p>	<p>/ACM/ /CEA/ /PDD/</p>	<p><i>Description:</i> As required by approved methodology, CO<sub>2</sub> which is emitted from the electricity generation in fossil fuel fired power plants is the only GHG included in the project boundary.</p> <p><i>Justification of evidences:</i> The same is confirmed by validation team by reviewing approved methodology, ACM0002, VER. 15.0<sup>/ACM/</sup> available on UNFCCC web site<sup>/UNFCCC/</sup> and details provided in the PDD.</p> <p><i>Conclusion:</i> The validation team concludes that all the sources and GHGs are included in the project boundary as required in the applied methodology.</p>	<p>OK</p>	<p>OK</p>
<p>B.3.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?</p> <p>(VVS, §§ 84, 87) Confirm if the Adequacy provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</p>	<p>/ACM/ /PDD/</p>	<p><i>Description:</i> The methodology does not allow choosing a source and/or gas is to be included, hence this question is not applicable for the proposed project activity.</p> <p><i>Justification of evidences:</i> The same is confirmed by validation team by reviewing approved methodology, ACM0002, VER. 15.0<sup>/ACM/</sup> available on UNFCCC web site<sup>/UNFCCC/</sup> and details provided in the PDD.</p> <p><i>Conclusion:</i> As methodology doesn't allow whether a source and/or gas is to be included or not hence, same is not applicable in this case.</p>	<p>OK</p>	<p>OK</p>
<p>B.3.4. Have emission sources been identified, which are expected to contribute more than 1% of the overall expected average annual</p>	<p>/ACM/ /PDD/</p>	<p><i>Description:</i> No, as per applied methodology emission sources as identified would not lead to more than 1% of the overall expected annual emission reductions.</p>	<p>OK</p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>emissions reductions and which are not addressed by the selected approved methodology?</p> <p>(VVS, § 87)</p> <p><i>Describe the steps taken to validate this issue. If any emission sources that are expected to contribute more than 1% have been identified, the DOE shall request clarification of, revision to, or deviation from the methodology, as appropriate.</i></p>		<p><i>Validator's action:</i> This is verified by validation team from the by reviewing approved methodology, ACM0002, VER. 15.0<sup>/ACM/</sup> available on UNFCCC web site<sup>/UNFCCC/</sup> and details provided in the PDD.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the emission reduction calculated for the project activity are not more than 1% of the as per approved methodology, ACM0002, VER. 15.0<sup>/ACM/</sup>.</p>		
<p><b>B.4. Baseline Identification</b></p> <p><i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i></p>				
<p>B.4.1. Has the baseline scenario been determined according to the methodology?</p> <p>(VVS, §§ 72 (b), 89, 87(e))</p> <p><i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i></p>	<p>/ACM/ /PDD/</p>	<p><input checked="" type="checkbox"/> The baseline is defined by the applying methodology and the PDD refers to it. If the answer is Yes, continue to B.4.5</p> <p><input type="checkbox"/> The baseline is not directly defined by the applying methodology.</p> <p>For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2.</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<input type="checkbox"/> The determination has been carried out as per the procedure contained in the applied methodology. <input type="checkbox"/> The following CARs / CLs have been identified with respect to the selection of the baseline scenario:		
<p><b>B.4.2. Is the list of alternatives complete?</b> (VVS, § 90) <i>Describe how it was validated that all alternatives are plausible and that any scenarios that are supplementary to those required by the methodology are realistic and credible in the context of the project activity and that no alternative scenarios have been excluded.</i> <i>Fill in all alternatives in table A-2.</i></p>	/ACM/ /PDD/	<input type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been excluded. <input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued Section B.5 of the PDD doesn't mention/identify the realistic and credible alternative scenarios as guided by step-1 of the applied methodology ACM0002 VER. 15.0  Also, section B.5 of the PDD doesn't mention the reference of the investment analysis guideline used by project proponent for demonstration of additionality	CAR B2	OK
<p><b>B.4.3. Is the identified baseline scenario reasonable and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources?</b></p>	/ACM/ /PDD/	<input checked="" type="checkbox"/> The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2. <input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>(VVS, § 91) <i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PDD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PDD.</i></p>		assessed to be not conservative		
<p>B.4.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policiessuch as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector.?</p> <p>(VVS, § 93) <i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PDD. Two (2) types of national and/or sectoral policies have to be taken into account:</i></p> <p>(a) <i>National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels, known as E+ policies. For this type of national and/or sectoral policies or regulations, only those that have been implemented before adoption of the Kyoto Protocol by the COP (decision 1/CP.3, 11 December 1997) shall be taken into account</i></p> <p>(b) <i>National and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programmes), known as E- policies. For this type of</i></p>	/ACM/ /PDD/	<p><i>Description:</i> The baseline scenario selected is in compliance with all applicable legal and regulatory requirements as;</p> <ul style="list-style-type: none"> <li>• the implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement;</li> <li>• the Electricity Act 2003 does not restrict or empower any authority to restrict the fuel choice for power generation;</li> <li>• the applicable environmental regulations do not restrict the use of wind energy and</li> <li>• there is no legal requirement on the choice of a particular technology.</li> </ul> <p><i>Validator's action:</i> The websites of ministry of power and central electricity authority are checked by the validation team to confirm the same.</p> <p><i>Conclusion:</i> The validation team concluded that the baseline scenario sufficiently takes into account the relevant national and/or sectoral policies, macro-economic trends and political aspirations.</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>national and/or sectoral policies or regulations, those that have been implemented since the adoption by the COP of the CDM M&amp;P (decision 17/CP.7, 11 November 2001) need not be taken into account in identifying a baseline scenario.</i>				
<p>B.4.5. What has been identified as the baseline scenario? Does the PDD contain a <i>verifiable</i> description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity? (VVS, § 88)</p>	/PDD/ /ACM/	<p><i>Description:</i> As per para 22 of the applied methodology ACM0002, VER. 15.0 used in the Project Design Document (PDD) the baseline is defined as “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system”.</p> <p><i>Validator’s action:</i> Project Design Document (PDD) has been checked against the applied methodology ACM0002, VER. 15.0.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the baseline scenario has been identified correctly as per applied methodology ACM0002, VER. 15.0.</p>	OK	OK
<p><b>B.5. Additionality Determination</b> <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i></p>				
<p><b>B.5.1. Methodology</b></p>				
<p>B.5.1.1. Does the PDD describe how the project is</p>	/PDD/	<p><i>Description:</i> Yes, the PDD describes additionality of the project</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>additional and does the additionality justification follow the requirements of the applied methodology and/or methodological tools?</p> <p>(VVS, §§ 72 (d), 101-102)</p> <p><i>Describe how it is validated that additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i></p>	/UNFC CC/	<p>and additionality justifications have followed the requirements of the applied methodology ACM0002 VER. 15.0 and allied tools.</p> <p><i>Justification of evidences:</i> PDD has been reviewed by validation team and check with the latest tools/guidance/ methodologies available in the UNFCCC website.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the PDD describes the additionality of the project and justifications as per applied methodology and/or methodological tools</p>		
<b>B.5.2. Consideration of CDM before project start</b>				
<p>B.5.2.1. In case the project start date is on or after 2<sup>nd</sup> August 2008 has the PP informed the DNA and UNFCCC about the intention to seek CDM status?</p> <p>(VVS, § 107)</p> <p><i>Describe whether such a notification has been provided by the project participants within 180 days to the UNFCCC and host Party DNA and that further notifications, if necessary (two years from CDM Prior Notification letter without having published the PDD), have been sent to the UNFCCC. If NOT it shall be determined that the CDM was not seriously considered.</i></p> <p><i>Assess the project starting date in section C.1</i></p>	/PDD/ /UNFC CC/ /PO/ /PI/	<p><i>Description:</i> Project proponents have placed the purchase order to Vestas Wind Technology India Private Limited for WTGs included in the project activity on <b>31/12/2013</b>. So, same has been correctly considered as the start date of the project activity which is after 02/08/2008.</p> <p>Also, validation team has also verified the evidence related to prior CDM consideration to conclude that PP has informed the DNA and UNFCCC about the intention to seek CDM status</p> <p><i>Validator's action:</i> Purchase order; intimation letter &amp; email sent to DNA and UNFCCC has been verified and against the details given in the PDD.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the notification has been provided by the project participants within 180 days of (after signing the purchase order) to the UNFCCC</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		and host Party DNA; which concludes that the CDM was seriously considered by PP.		
In case the project starting date has been correctly defined on or after 2 <sup>nd</sup> August 2008, go to B.5.2.4				
<p>B.5.2.2. In case the project start date is before commencing of validation and 2<sup>nd</sup> August 2008, was the incentive from the CDM seriously considered by the project participants and the benefits of CDM were considered a decisive factor in the decision to proceed with the project?</p> <p>(VVS, § 108 (a))</p> <p><i>Describe whether the evidences to support such considerations are adequately and transparently described in the PDD.</i></p> <p><i>Include an assessment on how was the CDM involved in the decision making process, as well as how and when the decision to proceed with the project activity was taken and whether the decision to proceed with the project was taken by a person which has the authority to do so.</i></p> <p><i>Include an assessment of the authenticity of the evidences.</i></p>		<p><i>Description:</i> N/A</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p>B.5.2.3. Does the documented evidence provided doubtlessly prove that continuous and real actions were taken in order to secure the CDM status?</p>		<p><i>Description:</i> N/A</p> <p><i>Validator's action:</i></p>	N/A	N/A



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>(VVS, §§ 108;(b), 109, 110)</p> <p><i>Include an assessment on the gap between the documented evidences to secure the CDM status.</i></p> <p><i>When the gap is greater than two years and less than three, it has to be assessed whether continuing and real actions were taken to secure CDM status for the project activity.</i></p> <p><i>If the gap is greater than three years, it must be concluded that continuing and real actions were not taken to secure CDM status for the project activity).</i></p> <p><i>Describe the steps taken to validate that the real documented evidences are reliable and authentic.</i></p>		<p><i>Conclusion:</i></p>		
<p>B.5.2.4. Does the proposed project activity comply with all applicable requirements related to the prior consideration of the CDM?</p> <p>(VVS, § 112(c))</p> <p><i>Describe whether or not the project would have been undertaken without the incentive of the CDM.</i></p>	/PDD/ /MD/	<p><i>Description:</i> Yes, the project activity complies with all applicable requirement related to prior consideration of the CDM.</p> <p><i>Validator's action:</i> Same is verified against the management decision taken by board of directors of the company i.e. Powerica Limited.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the proposed project activity comply with all applicable requirements related to the prior consideration of the CDM</p>	OK	OK
<p><b>B.5.3. Identification of alternatives Step 1</b></p> <p>(in case of SSC projects pl. skip steps 1 and 2 if appropriate; in cases where the baseline scenario is prescribed in the approved methodology, skip step 1, (VVS, § 115))</p>				
<p>B.5.3.1. Does the list of alternatives contain the</p>	/PDD/	<p><i>Description:</i> Sec. B5 does not provide realistic and credible</p>	GAR	OK



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>status-quo situation, the project not undertaken as a CDM project as well as all other viable alternatives for supplying the outputs or services that are to be supplied by the proposed CDM project activity? Do all identified alternatives comply with enforced legislations?</p> <p>(VVS, §§ 114, 116)</p> <p><i>Describe whether the list of alternatives is credible and complete. Describe how it is validated that the list of alternatives is complete, realistic and that the alternatives are credible and that all alternatives comply with the existing and enforced legislation.</i></p> <p><i>Describe the steps taken to validate this issue on the basis of your local and sectoral knowledge.</i></p>	<p>/ACM/</p>	<p>alternatives to the project activity which is correct and in line with the applied methodology. Refer finding raised in section B.4.2 above.</p> <p><i>Validator's action:</i> PDD has been reviewed by validation team against the applied methodology.</p> <p><i>Conclusion:</i> Subjected to the closure of the finding raised in section B.4.2 above.</p>	<p>B2</p>	
<p><b>B.5.4. Investment analysis Step 2</b></p> <p><i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 4 "Assessment of Financial Parameters" has to be used to provide additional details of the calculation parameters..</i></p>				
<p>B.5.4.1. Does the PDD provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs?</p>	<p>/PDD/ /XLS/</p>	<p><i>Description:</i> Yes, the PDD provides evidence to the effect that the project activity is not financially attractive without CER revenues.</p> <p><i>Justification of evidences:</i>PDD and Worksheet submitted by PP was checked by validation team.</p>	<p>OK.</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>(VVS, § 117)</p> <p><i>In cases where the project activity would produce no financial or economic benefits other than CDM-related income, describe how it has been validated that at least one of the alternatives identified is less costly than the proposed project activity.</i></p>		<p><i>Conclusion:</i> PDD, duly supported by worksheet reveal that the project would not be the economically/financially feasible without the revenues from the sale of CERs</p>		
<p>B.5.4.2. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation?</p> <p>(EB 62 Annex 5, §8)</p> <p><i>Describe the steps taken to validate this issue.</i></p>	/PDD/ /XLS/	<p><input checked="" type="checkbox"/> Yes, a clear, viewable and unprotected Excel spreadsheet is available.</p> <p><input type="checkbox"/> No, a respective Excel spreadsheet needs to be made available for investment calculation.</p> <p>In this context the following additional findings have been identified: N/A</p>	OK	OK
<p>B.5.4.3. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p>(EB 62 Annex 5, § 3)</p> <p><i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilised in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	/PDD/ /XLS/ /TO/	<p><i>Description:</i> Yes, 20 year period has been chosen for investment analysis, which reflects the technical lifetime of the project activity. The WTG machine of Vestas have been listed on the website of 'Centre for Wind Energy Technology', Govt. of India, confirming availability of Type Certificate, which confirms the lifetime.</p> <p><i>Validator's action:</i> PDD and spreadsheet has been checked by validation team</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the period chosen for the investment analysis reflect the technical lifetime of the project activity. And salvage value i.e. fair value of the project activity's assets i.e. WTG has been included at the end of the investment analysis period (as a cash inflow).</p>	OK	OK
<p>B.5.4.4. Is the fair value calculated in accordance</p>	/PDD/	<p><i>Description:</i> Fair value has been considered at 10% of the value of</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>with local accounting regulations (where available) or international best practice? (EB 62 Annex 5, § 4) <i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.</i></p>	/XLS/	<p>assets, which is in conformity with international practice <i>Validator's action:</i> PDD and Worksheet submitted by PP was checked by validation team <i>Conclusion:</i> Fair value provided in the terminal year conforms to international best practices. The fair value represents only potential profit expected to be realized.</p>		
<p>B.5.4.5. Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation? (EB 62 Annex 5, § 4)</p>	/PDD/ /XLS/	<p><i>Description:</i> Fair value has been taken at 10% of the value of assets, which is only potential profit, as the book value is nil. <i>Validator's action:</i> Excel calculation sheets are reviewed by the validation team. <i>Conclusion:</i> Fair value provided in the terminal year conforms to international best practices. The fair value represents only potential profit expected to be realized.</p>	OK	OK
<p>B.5.4.6. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)? (EB 70 Annex 8, EB 62, Annex 5, §19) <i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i>  <i>Assess whether the alternative to the project activity is to supply the same or substitute products or services. In this case, an</i></p>	/PDD/ /XLS/ /TA/	<p><i>Description:</i> Project developer has chosen benchmark analysis to demonstrate additionality of the project, which is in conformity with Ver. 07.0 of EB 62 Annex 05 <i>Validator's action:</i> PDD and Worksheet submitted by PP was checked by validation team against the EB 62 Annex 05.  <i>Conclusion:</i> Since the project activity would be earning revenue</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>investment comparison analysis shall be used.</i>		from the sale of power to the grid and that the baseline is outside the direct control of project developer, benchmark analysis considered appropriate for demonstration of additionality and is in conformity with EB 62 Annex 05.		
<p>B.5.4.7. Were the input values used in the investment analysis valid and applicable at the time of the investment decision? (EB 62 Annex 5, § 6) <i>Describe the steps taken to validate this issue</i></p>	/PDD/ /XLS/ /TA/ /OFF/ /PO/	<p><i>Description:</i> Input values used in the investment analysis are checked by validation team considering the investment decision taken by project proponent and following non conformities were identified.</p> <p>The reference given for each input parameter (both in the PDD and worksheet) does not contain the date and page number of the document.</p> <p><i>Validator's action:</i>Worksheet submitted by PP was checked by validation team</p> <p><i>Conclusion:</i> CAR B3 are raised in this regard.</p>	CAR B3	OK
<p>B.5.4.8. Did implementation of the project ceased after its commencement and did implementation recommence after consideration of the CDM? (EB 62 Annex 5, § 7) <i>Describe the reasons for ceasing the project and explain why the incentive from CDM was necessary to recommence the implementation.</i> <i>Assess whether the investment analysis reflects the economic</i></p>	/PDD/ /XLS/ /OFF/ /PO/	<p><i>Description:</i> As verified during the site visit and interview with the project proponent and site personal, WTGs involved in the project activity are not yet commissioned and it is confirmed by project proponent that the implementation of the project did not cease after its commencement</p> <p><i>Justification of evidences:</i> PDD and Purchase order and Certificate of commissioning are verified by validation team.</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>decision-making context at point of the decision to recommence the project, i.e. capital costs incurred prior to the recommencement of the project are to be limited to the potential reuse/resale of tangible assets, demonstrating the value through assessment done by chartered specialists.</i></p>		<p><i>Conclusion:</i> The implementation of the project did not cease after its commencement.</p>		
<p>B.5.4.9. Are the input parameters based on values from Feasibility Study Reports that are approved by national authorities for proposed project activities?  (VVS, § 122) <i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalisation of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and PDD.</i></p>	<p>/PDD/ /XLS/ /TA/ /OFF/ /PO/</p>	<p><i>Description:</i> No, input values are not based on any Offer letter, GERC order.  <i>Validator's action:</i> PDD and sources or references of input values are verified by validation team.  <i>Conclusion:</i> Thus it is concluded by validation team that the input values are based on Offer letter, tariff order and other allied supporting reference document as listed in the reference table.</p>	OK	OK
<p>In case a simple cost analysis has been done, go to B.5.5;</p>				
<p>B.5.4.10. Has been a suitable financial indicator chosen by the project participants?  (VVS, § 120 (a))  <i>Describe the steps taken to validate this issue.</i></p>	<p>/PDD/ /XLS/</p>	<p><i>Description:</i> Yes, a suitable financial indicator has been selected by project proponent. As validated by validation team post-tax equity IRR has been correctly chosen as the financial indicator for the project activity line with the investment guidelines.  <i>Validator's action:</i> PDD and sources or references of input values are verified by validation team.</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<p><i>Conclusion:</i> Thus, it is concluded by validation team that a suitable financial indicator chosen by the project participants complying to the investment analysis guideline.</p>		
<p>B.5.4.11.Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow?  (EB 62 Annex 5, § 5)</p>	<p>/PDD/ /XLS/</p>	<p><i>Description:</i> The depreciation has been observed to be considered in tax calculation and in cash outflow  <i>Validator's action:</i> PDD and sources or references of input values are verified by validation team  <i>Conclusion:</i> Thus, it is concluded by validation team that the depreciation and other non-cash related items only considered in the tax calculation</p>	<p>OK</p>	<p>OK</p>
<p>B.5.4.12.Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the framework of demonstrating additionality and calculating the ex-ante ER?  (EB 48, Annex 11)</p>	<p>/PDD/ /XLS/ /PLF/</p>	<p><i>Description:</i> The PLF considered for both financial analysis and emission reduction calculation is based on third party PLF assessment report.  <i>Validator's action:</i> PDD and spread sheet are checked by validation team against the third party PLF assessment report for consideration of the PLF value for financial analysis.  <i>Conclusion:</i> Thus, it is conclude by validation team PLF chosen for financial analysis is correct and in line with the Guidelines for the reporting and validation of plant load factors</p>	<p>OK</p>	<p>OK</p>
<p>B.5.4.13.Does the PDD and related spreadsheets contain a sensitivity analysis and does the same contain variation of parameters which</p>	<p>/PDD/ /XLS/ /OFF/</p>	<p><i>Description:</i> Yes, the PDD and related spreadsheets contain sensitivity analysis and they contain variation in parameters which may vary throughout the project lifetime.</p>	<p><del>CAR</del> B4</p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>may vary throughout the project lifetime, (EB 62 Annex 5, § 20-21) <i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i></p>		<p>However, Sensitivity analysis doesn't contain the explanation for input parameters with their values; that at what percent variation in the parameter the IRR will cross the benchmark. <i>Validator's action:</i> PDD and sources or references of input values are verified by validation team <i>Conclusion:</i> CAR B4 is raised in this regard.</p>		
<p>B.5.4.14. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation? (EB 62 Annex 5, § 20)</p>	<p>/PDD/ /XLS/</p>	<p><i>Description:</i> Not only the variables that constitute more than 20% of project cost have not been subjected to sensitivity analysis, O&amp;M cost being a critical parameter which constitutes less than 20% of the project costs also considered for the sensitivity analysis. <i>Validator's action:</i> The PDD and financial calculation sheet are reviewed by the validation team to confirm the same. <i>Conclusion:</i> Even though the O&amp;M cost does not constitute more than 20% of the project cost, this has been subjected to sensitivity analysis.</p>	<p>OK</p>	<p>OK</p>
<p>B.5.4.15. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter?</p>	<p>/PDD/ /XLS/</p>	<p><i>Description:</i> The only revenue forms the part of the project is revenue from the sale of electricity. The net electricity generation or PLF and electricity tariff which determine the revenue are separately subjected to sensitivity analysis.</p>	<p>OK</p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
(EB 62 Annex 5, § 20) <i>Describe whether those parameters are considered in the sensitivity analysis?</i>		<i>Validator's action:</i> The PDD and financial calculation sheet are reviewed by the validation team to confirm the same.  <i>Conclusion:</i> The revenue due to the sale of electricity has been only considered for sensitivity analysis.		
B.5.4.16. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?  (EB 62 Annex 5, § 21) <i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i>	/PDD/ /XLS/	<i>Description:</i> Range of variation is reasonable in the context of the project activity.  <i>Validator's action:</i> PDD and IRR calculation sheet are reviewed by the validation team to confirm the same.  <i>Conclusion:</i> Range of variation is reasonable in the context of the project activity, taking into consideration historic trends in the business sector.	OK	OK
B.5.4.17. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR?  (EB 62 Annex 5, § 9)	/PDD/ /XLS/	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Yes, the costs of financing expenditures have been included. <input type="checkbox"/> No, this requirement is not met.  In this context the following additional findings have been identified: N/A	OK	OK
B.5.4.18. In case of equity IRR: Is the part of the investment costs, which is financed by equity, considered as net cash outflow and is the part financed by debt excluded in net cash outflow?	/PDD/ /XLS/	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes, in- and outflows have been considered correctly. <input type="checkbox"/> No, this requirement is not met.  In this context the following additional findings have been	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
(EB 62 Annex 5, § 10)		identified: N/A		
In case a comparison analysis has been done, go to B.5.5				
<p>B.5.4.19. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?</p> <p>(EB 62 Annex 5, § 12) <i>Describe the steps taken to validate this issue.</i></p>	/PDD/ /XLS/	<p><i>Description:</i> In line with ‘Guidelines on the Assessment of Investment Analysis (Version 05), EB 62, annex 5, the default value of cost of equity provided in Appendix A of the guidelines (EB 62, annex 5). The default value of return on equity applicable for energy sector in India is 11.75% as per the guidelines. In accordance with the Guidelines, project participant has converted the real term value of return on equity (i.e. 11.75%) to nominal values by adding inflation rate.</p> <p>However, clarification is request as to why not minimum or mean value of inflation is considered for the benchmark calculation.</p> <p><i>Validator’s action:</i> The information provided in the PDD and ‘Guidelines on the Assessment of Investment Analysis are reviewed by the validation team to confirm the same.</p> <p><i>Conclusion:</i> Pending closure of CL B2.</p>	CL-B2	OK
B.5.4.20. Is a pre-tax benchmark applied in case of project IRR is calculated? In cases where a post-tax benchmark is applied, assess whether actual interest payable is taken into account in the calculation of income tax.	/PDD/ /XLS/	<input type="checkbox"/> N/A <input type="checkbox"/> A pre-tax benchmark is applied <input checked="" type="checkbox"/> The benchmark is post-tax and the interest has been taken into account for the calculation	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>(EB 62 Annex 5, § 11) <i>If this is not the case, ensure that taxation is excluded from the investment analysis. As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirement.</i></p>		<p><input type="checkbox"/> No, this requirement is not met. In this context the following additional findings have been identified: N/A</p>		
<p>B.5.4.21. Have both benchmark and cash flows expressed consistently, i.e. real terms (excluding the effect of inflation) or nominal terms? <i>Describe the steps taken to validate this issue.</i></p>	/PDD/ /XLS/	<p><i>Description:</i> The return on equity recommended by EB 62, annex 5 has been considered by the project proponent. The return on equity on nominal term computed applying the inflation factor has been considered as the benchmark for the project. The revenue of the project would be determined by the tariff fixed by the State Electricity Regulatory Commission (for Maharashtra WTGs). The tariff assumed for the financial analysis is based on the GERC tariff order which was valid at the time of investment decision.  <i>Validator's action:</i> The PDD, financial calculation sheet and GERC tariff order have been reviewed by the validation team to confirm the same.  <i>Conclusion:</i> Subjected to the closure of the CL raised in section B.5.4.19 above.</p>	OK	OK
<p>B.5.4.22. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?</p>	/PDD/ /XLS/	<p><i>Description:</i> The benchmark has been selected as per the default value of return on equity recommended by EB 62, annex 5. The equity IRR calculated for the project is lower as compared to the benchmark selected.  <i>Validator's action:</i> The same has been confirmed by review of</p>	CL-B2	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>(VVS, § 121 (c)) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i></p>		<p>PDD, financial calculation sheet and copy of board resolution. <i>Conclusion:</i> Thus, it is concluded by validation team that the benchmark value suitable for the project activity</p>		
<p>B.5.4.23. Is the benchmark applied based on parameters that are available and standard in the market?</p> <p>(VVS, 121 (b), EB 62 Annex 5, §§13, 15, 16, 18) <i>Assess whether company-specific benchmarks or benchmarks based on parameters that are available in the market are suitable to the project activity. A benchmark that includes the subjective profitability expectations or risk profile of the project developer (size risk premiums, company own risk premium, etc) is not suitable for project activities open to be developed by other entities.</i></p> <p><i>If cost of equity is applied, assure that best financial practices are used and are based on data sources which can be cross-checked against third-party or publicly available sources.</i></p> <p><i>If cost of debt is used for the calculation of the benchmark, ensure that it is calculated as the cost of financing in the capital markets (e.g: commercial lending rates)</i></p> <p><i>If the cost/equity financing structure of the project is not yet available, 50% equity, 50% debt financing may be assumed as default.</i></p>	/PDD/ /XLS/	<p><i>Description:</i> The benchmark has been selected as per the default value of return on equity recommended by EB 62, annex 5.</p> <p><i>Validator's action:</i> The same is confirmed by review of PDD.</p> <p><i>Conclusion:</i> The benchmark considered is suitable for the project activity.</p>	OK	OK
<p>Following checklist is intended for cases where intern company benchmarks are applied, otherwise go to B.5.5</p>		<p><b>Not applicable</b></p>		



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>B.5.4.24. Is it ensured that the project cannot be developed by other developers than the PP, so that internal company benchmarks or expected returns are suitable for the project activity?</p> <p>(EB 62 Annex 5, §§ 13 – 14) Describe how it has been validated that there is only one possible project developer.</p>		<p><i>Description:</i> N/A</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p>B.5.4.25. Was the benchmark consistently used in the past by the same company for similar projects with similar risks?</p> <p>(EB 62 Annex 5, § 14) If applicable, assess the past financial behaviour of the entity during the last 3 years in relation to similar projects.</p>		<p><i>Description:</i> N/A</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p>B.5.4.26. Was the cost of debt calculated based on the weighted average cost of debt financing of the legal entity owning the CDM project activity?</p> <p>(EB 62 Annex 5, § 16) If applicable, assess whether loans, bonds or debt financing from a parent company are calculated according to the latest "Guidance on Investment Analysis". In case that the debt structure of the project is not yet available, the</p>		<p><i>Description:</i> N/A</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>cost of debt can be assumed as the commercial lending rate in the company or the yield of a 10-year bond issued by the government of the host county.</i>				
<p>B.5.4.27. Does the equity/debt ratio of the project reflect the long-term debt/equity finance structure of the legal entity owning the assets of the project activity? (EB 62 Annex 5, § 17)</p> <p><i>Assess the latest balance sheets of the legal entity owning the assets of the project activity, in case these are available and audited by a third party within two years prior to the submission of the PDD for validation, and the accounting books reflect the total value of all assets needed for the project activity.</i></p> <p><i>If debt/equity financing structure is not available, 50% equity, 50% debt shall be considered as default.</i></p>		<p><i>Description: N/A</i></p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p><b>B.5.5. Barrier analysis Step 3 or SSC additionality assessment</b></p>		<p><b>Not applicable</b></p>		
<p>B.5.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project? (VVS, § 125)</p> <p><i>In case of LSC projects those issues <u>cannot be considered</u> as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5. Only unavailability of sources of finance and/or risk</i></p>		<p><i>Description:</i></p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>related barriers, for example, the risk related to technical failure that could have negative impact on financial performance are acceptable as barriers.</i>				
B.5.5.2. Has the unavailability of means of finance for the project been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM?  (EB 50 Annex 13, § 9)		<i>Description:</i>  <i>Validator's action:</i>  <i>Conclusion:</i>	N/A	N/A
B.5.5.3. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated?  (EB 50 Annex 13, § 7) <i>Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analysing the project's additionality within the framework of an investment analysis is inappropriate. .</i>		<i>Description:</i>  <i>Validator's action:</i>  <i>Conclusion:</i>	N/A	N/A
B.5.5.4. How is it justified and evidenced that the barriers given in the PDD are real?  (VVS, § 126(a))		<i>Description:</i>  <i>Validator's action:</i>  <i>Conclusion:</i>	N/A	N/A



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.5.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives?</p> <p>(VVS, § 126 (b))</p>		<p><i>Description:</i></p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p>B.5.5.6. Does the review of relevant background information on the nature of the company(ies) and entity(ies) involved in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real?</p> <p>(EB 50 Annex 13, § 4)</p>		<p><i>Description:</i></p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p>B.5.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers?</p> <p>(EB 50 Annex 13, § 5)</p>		<p><i>Description:</i></p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	N/A	N/A
<p><b>B.5.6. Common practice analysis Step 4</b> (in case of SSC projects or first-of-its-kind LSC projects skip this step)</p>				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.5.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type?</p> <p>(VVS, § 129(a)) <i>Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more appropriate.</i></p>		<p><i>Description:</i> Project developer has taken the entire country as the geographical region.</p> <p><i>Validator's action:</i> Desk review of webhosted PDD</p> <p><i>Conclusion:</i> Defined region for the common practice analysis appropriate for the technology/industry type.</p>	OK	OK
<p>In case of projects activities applying ACM002, go to B.5.6.4</p>				
<p>B.5.6.2. To what extent similar projects have been undertaken in the relevant region?</p> <p>(VVS, § 129(b)) <i>Similar projects are considered those that take place in a comparable environment w.r.t. regulatory framework, investment climate, access to technology and financing, etc. Registered CDM PA and PA that have been published on the UNFCCC website are not to be considered as similar.</i></p>	/PDD/ /ACM/ /CPA/	<p><i>Description:</i> Not applicable</p> <p><i>Validator's action:</i> PDD and Common Practice Analysis (CPA) sheet has been reviewed by validation team.</p> <p><i>Conclusion:</i> Not applicable</p>	OK	OK
<p>B.5.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed?</p>	/PDD/ /ACM/ /CPA/	<p><i>Description:</i> Not applicable</p> <p><i>Justification of evidences:</i> PDD and Common Practice Analysis (CPA) sheet has been reviewed by validation team.</p> <p><i>Conclusion:</i> Not applicable</p>	OK	OK

Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
(VVS, § 129(c))				
<p>B.5.6.4. In case of projects activities applying ACM002:</p> <p>Has an output range as +/- 50% of the design output of the project activity been calculated in order to define the capacity range for “similar” projects?</p> <p>(EB 69 Annex 8, § 5)</p>	<p>/PDD/ /ACM/ /CPA/</p>	<p><i>Description:</i> Yes, output range as +/- 50% of the design output of the project activity, i.e., from 10.9 MW to 32.7 MW has been calculated in order to define the capacity range for “similar” projects.</p> <p><i>Validator’s action:</i> PDD and Common Practice Analysis (CPA) sheet has been reviewed by validation team.</p> <p><i>Conclusion:</i> Output range as +/- 50% of the design output of the project activity has been calculated in order to define the capacity range for “similar” projects.</p>	OK	OK
<p>B.5.6.5. In case of projects activities applying ACM002:</p> <p>Does N<sub>all</sub> include only plants that have started commercial operation before the the start date of the project and are within the applicable output range?</p> <p>(EB 69 Annex 8, § 7)</p> <p><i>Under N<sub>all</sub>, registered CDM projects and projects undergoing validation are not to be included.</i></p>	<p>/PDD/ /ACM/ /CPA/</p>	<p><i>Description:</i> Yes, N<sub>all</sub> include only plants that have started commercial operation before the start date of this project activity but not applied for CDM.</p> <p><i>Validator’s action:</i> PDD and Common Practice Analysis (CPA) sheet has been reviewed by validation team.</p> <p><i>Conclusion:</i> N<sub>all</sub> include only plants that have started commercial operation before the start date of this project and is within the applicable output range.</p>	OK	OK
<p>B.5.6.6. In case of projects activities applying ACM002:</p> <p>Does N<sub>diff</sub> include only plants that apply</p>	<p>/PDD/ /ACM/ /CPA/</p>	<p><i>Description:</i> No, N<sub>diff</sub> does not include plants applying different technology than the project activity.</p>	OK	OK



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>different “technology” than the project activity? (EB 69 Annex 8, §§ 4, 8)</p> <p><i>The term “technology” refers to energy fuel, investment climate (access to technology, subsidies, legal regulations, etc...) or unit cost of output.</i></p> <p><i>Assess how the essential distinctions to identify the different measures have been carried out.</i></p>		<p><i>Validator’s action:</i> PDD and Common Practice Analysis (CPA) sheet has been reviewed by validation team.</p> <p><i>Conclusion:</i> N<sub>diff</sub> does not include plants that apply different technology than the project activity.</p>		
<p><b>B.5.7. Algorithms and/or formulae used to determine emissions reductions</b></p> <p><i>It is assessed whether the steps taken and the equations and parameters applied in the PDD to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected methodology including applicable tool(s).</i></p>				
<p>B.5.7.1. Are the equations applied correctly according to the applied approved methodology? (VVS, §§ 72(c), 96)</p> <p><i>Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values</i></p>	<p>/PDD/ /ACM/</p>	<p><input checked="" type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology.</p> <p><input type="checkbox"/> The following mistakes have been identified in this context:</p> <p><i>Description:</i> The equations used in the PDD for calculation of project emissions, baseline emissions, leakage and emission reductions are compared with the applied methodology. All the equations are found to be used in line with the applied methodology. The estimation of baseline emission provided in</p>	<p>OK</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>provided in the PDD.</i>		<p>the PDD could be replicated using data and parameters provided in the PDD.</p> <p><i>Validator's action:</i> The PDD and applied methodology, ACM 0002 are reviewed by the validation team to confirm the same.</p> <p><i>Conclusion:</i> All the equations applied correctly in accordance with the applied methodology.</p>		
<p>B.5.7.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(VVS, §§ 97, 98)</p> <p><i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of the project activity and other evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i></p>	/PDD/ /ACM/	<p><i>Description:</i> As per the approved methodology ACM0002, VER. 15.0, as the project uses renewable energy, project emission is correctly taken as zero.</p> <p><i>Validator's action:</i> The applied methodology ACM0002, VER. 15.0 has been checked by the validation team to confirm the same.</p> <p><i>Conclusion:</i> The validation team concluded that the project emission is zero for the proposed project activity.</p>	OK	OK
<p>B.5.7.3. Have conservative assumptions been used when calculating the emission reductions?</p> <p>(VVS, §§ 98, 99(a))</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the PDD</i></p>	/PDD/ /ACM/	<p><i>Description:</i> Project activity is installation of wind power project and does not lead to GHG emission within the project boundary more than 1 % of expected average annual emission reduction.</p> <p><i>Validator's action:</i> The applied methodology ACM0002, VER. 15.0 has been checked by the validation team to confirm the</p>	OK	OK

Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>including references and sources and are conservatively interpreted in the PDD.</i>		same.  <i>Conclusion:</i> Thus, it is concluded by validation team that the conservative assumptions have been used for calculating the emission reductions.		
<p>B.5.7.4. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions?</p> <p>(VVS, § 98) <i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the project activity. Check esp. chapter 6.2 of the PDD.</i></p>	/PDD/ /CEA/ /ACM/	<p><i>Description:</i> Emission factor considered for the project activity for the calculation of emission reduction is calculated correctly and conservatively. However, The data/parameter i.e. <math>EF_{grid, CM, y} = 0.9776</math> tCO<sub>2</sub>/MWh value used for emission factor calculation is consistent in section B.6.1 and B.6.2.</p> <p><i>Validator's action:</i> This is validated by the review of tool to calculate emission factor for an electricity system version 4.0<sup>/UNFCCC/</sup> and CO2 Baseline Database for the Indian Power Sector, version 9.0 of Central electricity Authority<sup>/CEA/</sup></p> <p><i>Conclusion:</i> CAR B5 is raised in this regard.</p>	CAR B5	OK
<p>B.5.7.5. Are all ex-ante calculation values for monitoring parameters (as defined as per chapter B.7.1 of PDD) reasonable?</p> <p>(VVS, § 98) <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of the project activity</i></p>	/PDD/ /CEA/ /ACM/	<p><input checked="" type="checkbox"/> All “Values of data to be applied for the purpose of calculating expected emissions reductions” are considered to be reasonable, applicable and conservative.</p> <p><input type="checkbox"/> The following mistakes have been identified in this context:</p>	OK	OK
<p>B.5.7.6. Are the emission reductions real, measurable and give long-term benefits</p>	/PDD/ /ACM/	<i>Description:</i> The project is a green field Wind based renewable energy generation project. The emission reduction occurred	OK	OK



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i></p>		<p>from the project will be calculated by measuring net exported electricity to the grid by project activity. The emission reduction is real, measurable and will give long term benefits related to the mitigation of climate change.</p> <p><i>Validator's action:</i> Validation team has reviewed, Purchase orders<sup>/PO/</sup>, CO2 Baseline Database for the Indian Power Sector, version 9.0 of Central electricity authority<sup>/CEA/</sup> to validate the same.</p> <p><i>Conclusion:</i> The validation team concluded that the emission reductions are real, measurable and give long-term benefits related to the mitigation of climate change</p>		
<p><b>B.5.8. Monitoring of Emission Reductions</b> <i>It is assessed whether the monitoring plan is appropriate for the project activity and in line with the applied methodology.</i></p>				
<p>B.5.8.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?  (VVS, §§ 72 (e), 131, 132 (a) (i)) <i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i>  <i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied</i></p>	<p>/PDD/ /ACM/ /IM/</p>	<p>Description: As per the applied methodology, ACM0002, VER. 15.0 version 17.0, "Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)" is the only parameter which is required to be monitored. The same is found to be included in section B.7.1 of the PDD.</p> <p>However, measurement procedure for the said parameter is not</p>	<p><del>CAR</del> B6</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.																								
<p><i>methodology.</i></p> <p><i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i></p>		<p>in line with the applied methodology ACM0002 VER. 15.0 (page 23/28). Further, daily generation data is not part of the monitoring parameter.</p> <p>Validator's action: The PDD and applied methodology, ACM0002, VER. 15.0 have been reviewed to confirm the same.</p> <p>Conclusion: CAR B6 is raised by validation team.</p>																										
<p>B.5.8.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible within the project design?</p> <p>(VVS, §§ 132 (b) (i), 133(b))</p> <p><i>Describe the steps undertaken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design.</i></p>	/PDD/ /IM02/	<p><i>Description:</i> The monitoring plan provided in the PDD is found to be feasible within the project design. The monitoring parameter could be monitoring as it has been defined in the monitoring plan.</p> <p><i>Validator's action:</i> Information given in the PDD reviewed and same is verified during the site visit and interview with operation and maintenance site personnel.</p> <p><i>Conclusion:</i> Thus, it is concluded by validation team that the means of monitoring of all parameters contained in the monitoring plan feasible within the project design.</p>	OK	OK																								
<p>B.5.8.3. [Quantity of net electricity supplied to the grid, e.g, EG<sub>y</sub>]</p> <p>(VVS, § 132 (a) (ii))</p> <p><i>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</i></p>	/PDD/ /ACM/ /IM/	<table border="1"> <thead> <tr> <th data-bbox="969 1145 1435 1177">Requirement</th> <th data-bbox="1435 1145 1585 1177">OK</th> <th data-bbox="1585 1145 1727 1177">Not OK</th> <th data-bbox="1727 1145 1832 1177">N/A</th> </tr> </thead> <tbody> <tr> <td data-bbox="969 1177 1435 1209">Label</td> <td data-bbox="1435 1177 1585 1209"><input checked="" type="checkbox"/></td> <td data-bbox="1585 1177 1727 1209"><input type="checkbox"/></td> <td data-bbox="1727 1177 1832 1209"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="969 1209 1435 1241">Data Unit</td> <td data-bbox="1435 1209 1585 1241"><input checked="" type="checkbox"/></td> <td data-bbox="1585 1209 1727 1241"><input type="checkbox"/></td> <td data-bbox="1727 1209 1832 1241"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="969 1241 1435 1273">Description</td> <td data-bbox="1435 1241 1585 1273"><input checked="" type="checkbox"/></td> <td data-bbox="1585 1241 1727 1273"><input type="checkbox"/></td> <td data-bbox="1727 1241 1832 1273"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="969 1273 1435 1305">Source of data</td> <td data-bbox="1435 1273 1585 1305"><input checked="" type="checkbox"/></td> <td data-bbox="1585 1273 1727 1305"><input type="checkbox"/></td> <td data-bbox="1727 1273 1832 1305"><input type="checkbox"/></td> </tr> <tr> <td data-bbox="969 1305 1435 1385">Measurement equipment / measure method</td> <td data-bbox="1435 1305 1585 1385"><input type="checkbox"/></td> <td data-bbox="1585 1305 1727 1385"><input type="checkbox"/></td> <td data-bbox="1727 1305 1832 1385"><input type="checkbox"/></td> </tr> </tbody> </table>	Requirement	OK	Not OK	N/A	Label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Data Unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Source of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Measurement equipment / measure method	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CAR B6	OK
Requirement	OK	Not OK	N/A																									
Label	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Data Unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Description	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Source of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Measurement equipment / measure method	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.																								
<p><i>For checking the use of international standards in the nomenclature, consider:</i></p> <p>a) <i>Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</i></p> <p>b) <i>Values shall be directly given in SI units – or additionally to original units transferred to SI.</i></p> <p>c) <i>Short scale naming system: (Only) million = 10<sup>6</sup> and billion 10<sup>9</sup> shall be used.</i></p>		<table border="0"> <tr> <td>Monitoring frequency</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>QA/QC procedures</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Purpose of data</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Standard format</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>SI units</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Short scale naming</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> <p>CAR B6 is raised in this regard.</p>	Monitoring frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	QA/QC procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Purpose of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Standard format	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SI units	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Short scale naming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Monitoring frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
QA/QC procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Purpose of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Standard format	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
SI units	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
Short scale naming	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																									
<p><b>B.5.8.4. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology?</b></p> <p>(VVS, § 131)</p> <p><i>Check whether all necessary equations have been provided in the PDD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>	/PDD/ /ACM/	<p><i>Description:</i> The calculation procedure provided in the PDD has been checked; the equations used for the calculation of ex-ante and ex-post emission reduction are found to be correct and in line with the applied methodology, ACM0002, VER. 15.0<sup>/ACM0002, VER. 15.0/</sup>.</p> <p><i>Validator's action:</i> Validation has reviewed approved methodology ACM0002, VER. 15.0<sup>/ACM/</sup> available on UNFCCC web site<sup>/UNFCCC/</sup> and details provided in PDD to validate the same.</p> <p><i>Conclusion:</i> The validation team concluded that all the equations used in the PDD for the calculation are correct and in line with the applied methodology.</p>	OK	OK																								
<p><b>B.5.8.5. Is it likely that the monitoring arrangements described in the PDD can properly be</b></p>	/PDD/ /IM02/	<p><i>Description:</i> The monitoring arrangement described in the PDD is likely to be properly implemented in the project activity.</p>	OK	OK																								



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>implemented in the context of the project activity?</p> <p>(VVS, § 132 (b) (i)) <i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>		<p><i>Validator's action:</i> The concern persons were interviewed during site visit to confirm the same.</p> <p><i>Conclusion:</i> The monitoring plan described in the PDD is likely to be implemented in the project activity.</p>		
<p>B.5.8.6. Are the QA/QC procedures appropriate sufficient to ensure the emission reductions achieved from the project activity can be reported ex-post and verified?</p> <p>(VVS, § 132 (b) (ii)) <i>Please consider the description given in section B.7.2. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p>/PDD/ /ACM/</p>	<p><i>Description:</i>The description of the measurement methods and procedure of the monitoring parameter, “quantity of net electricity generation supplied by the project” is to be compiled more elaborately in section B.7.1 and B.7.2 of the PDD as per the actual monitoring procedure followed at site</p> <p><i>Validator's action:</i> Information given in the PDD reviewed and same is verified during the site visit and interview with operation and maintenance site personnel.</p> <p><i>Conclusion:</i> Refer CAR B6 raised in section B.5.8.1 above.</p>	<p>CAR B14</p>	<p>OK</p>
<p>B.5.8.7. Are procedures identified for data management?</p> <p>(VVS, § 132 (b) (ii)) <i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</i></p> <p><i>Check further the data archiving provisions for the project activity</i></p>	<p>/PDD/ /ACM/ /IM01/</p>	<p><i>Description:</i> The information regarding operation and maintenance (O&amp;M) of the project activity including the responsibilities, what records to keep, storage of records etc are incorporated correctly in the PDD.</p> <p><i>Validator's action:</i> The same was confirmed by interview with the concern person<sup>/IM01/</sup> during onsite verification.</p>	<p>OK</p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<i>and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i>		<i>Conclusion:</i> The validation team concluded that the procedure for the data management is identified by the project proponent.		
<b>C. Duration and Crediting Period</b> <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>C.1.1. Is the project start date consistent with the available evidences? (VVS, § 106)</p> <p><i>Describe the evidence assessed regarding the prior consideration of the CDM (if necessary). Describe whether the evidence to support such consideration is adequately and transparently described in the PDD.</i></p>	<p>/PDD/ /IM01/ /PO/</p>	<p><i>Description:</i> The date of first purchase order or contract i.e. 01/08/2011 with technology supplier M/s Vestas Wind Technology India Private Limited is considered as the start date of the project activity.</p> <p><i>Validator's action:</i> Contract signed by the project proponent is checked and found correct by the validation team.</p> <p><i>Conclusion:</i> The validation team concludes that the project start date is defined correctly as per the "Glossary of CDM terms".</p>	<p>OK</p>	<p>OK</p>
<p>C.1.2. Is the project's operational lifetime clearly defined and evidenced?</p> <p><i>Check whether the project lifetime is correctly defined. Consider the latest "Guidance on the assessment of investment analysis".</i></p> <p><i>Check in case of phased implementation this has been reflected throughout the whole PDD incl. the financial assessment, if applicable.</i></p>	<p>/PDD/ /IM01/</p>	<p><i>Description:</i> The expected operational lifetime of the project activity of the project is considered as 20 years as part of the offer supplied by Suzlon. However, the expected operational lifetime of the project activity considered in section C.1.2 of the PDD doesn't refer this supporting evidence</p> <p><i>Validator's action:</i> PDD is revised by validation team during the desk review.</p> <p><i>Conclusion:</i> CAR C1 is raised in this regard.</p>	<p><del>CAR</del> C1</p>	<p>OK</p>
<p>C.1.3. Is the start of the crediting period clearly defined and reasonable?</p> <p><i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed for validation and registration.</i></p>	<p>/PDD/ /IM01/</p>	<p><i>Description:</i> The start date of crediting period is defined is not realistic.</p> <p><i>Validator's action:</i> The start date is checked by the assessment team in the PDD. Evidence will be on hold till the closure of the CAR C2.</p> <p><i>Conclusion:</i> CAR C2 has been raised.</p>	<p><del>CAR</del> C2</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><b>D. Environmental Impacts</b></p> <p><i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i></p>				
<p>D.1.1. Are there any Host Party requirements for an Environmental Impact Assessment (EIA)?</p> <p>(VVS, § 134-135)</p> <p><i>Check the host party regulations regarding EIA. If no requirements for an EIA exist, discuss whether the project participants conducted an analysis of the environmental impacts of the project activity.</i></p>	<p>/PDD/ /MOEF /</p>	<p><i>Description:</i> As per schedule 1 of the Ministry of Environment and Forests (MoEF), Government of India (GOI), notification dated 14/06/2009 wind Power project are not covered under EIA notification, 2006 and hence, environmental impact assessment studies is not required for this project activity.</p> <p><i>Validator's action:</i> The above stated notification has been checked to confirm the same.</p> <p><i>Conclusion:</i> The validation team concludes that the Environmental Impact Assessment (EIA) of the proposed project activity is not required.</p>	<p>OK</p>	<p>OK</p>
<p>D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out in accordance with the host Party procedures?</p> <p>(VVS, § 135)</p> <p><i>Check the EIA and its approval, if applicable.</i></p>	<p>/PDD/ /MOEF /</p>	<p><i>Description:</i> Since the environment impact assessment for this project activity is not required for this project activity, this is not applicable.</p> <p><i>Validator's action:</i> Not applicable</p> <p><i>Conclusion:</i> Not applicable</p>	<p>OK</p>	<p>OK</p>
<p>D.1.3. Are transboundary environmental impacts considered in the analysis?</p>	<p>/PDD/ /MOEF /</p>	<p><i>Description:</i> Since the environment impact assessment for this project activity is not required for this project activity, this is not applicable.</p>	<p>OK</p>	<p>OK</p>



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
(VVS, § 134) <i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i>		<i>Validator's action:</i> Not applicable  <i>Conclusion:</i> Not applicable		
<b>E. Stakeholder Comments</b>  <i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i>				
E.1.1. Have relevant local stakeholders been invited to consultation prior to the publication of the PDD?  (VVS, § 138-140)  <i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i>	/LSHC/ /IM03/	<i>Description:</i> The local stakeholder consultation meeting was carried out Jangi site in Gujarat by project proponent. The stakeholders identified are local residents and villagers. Stakeholders were invited through public notice and personnel invitation. However, in Section E.1 of the PDD project proponent has not included the date of advertisement given in local newspaper for local stakeholder meeting  <i>Validator's action:</i> The local stakeholder consultation minutes of the meeting was checked by the validation team and found correct as positive opinion is received during the stakeholder meeting process. In addition local stakeholders were also interviewed by validation team during the site visit to confirm the same.  <i>Conclusion:</i> CAR E1 is raised in this regard.	CAR E1	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>E.1.2. Can the local stakeholder consultation process be assessed as adequate? (VVS, § 138-140)</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PDD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PDD.</i></p>	<p>/LSHC/ /IM03/</p>	<p>Description: Positive opinion is obtained during the local stakeholder consultation process. The Local Stakeholder Consultation meeting was attended by people of the village, members of the Village Panchayat members and workers. During the stakeholder consultation process the stakeholders had raised the comments relevant to the proposed CDM activity. A summary of the comments received has been included in section E.1 &amp; E.2 of the PDD. All the comments raised by the stakeholders were responded and resolved successfully. No negative comment has been assessed to the received.</p> <p><i>Validator's action:</i> The Minutes of meeting (MoM) of the stakeholder consultation was checked and discussed with the local stakeholder during the site visit and found acceptable.</p> <p><i>Conclusion:</i> The Minutes of meeting (MoM) of the stakeholder consultation was checked and discussed with the local stakeholder during the site visit and found acceptable. The validation team concludes that the stakeholder consultation has been carried out adequately for the proposed project activity.</p>	<p>OK</p>	<p>OK</p>
<p><b>F. Others</b></p>				
<p><b>F. Approval – Contribution to Sustainable Development</b> <i>The written approval of the parties involved is a mandatory requirement.</i></p>				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>F.1.1. Have written approvals of all parties involved been provided to the validation team?</p> <p>(VVS, § 38)</p> <p><i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i></p> <p><i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i></p>	/PDD/	<p><i>Description:</i> The written approval of the host party is yet to be submitted. Validation team has raised CAR F1 for this.</p> <p><i>Validator's action:</i> The host country approval is not submitted to be validation team for which CAR F1 is raised.</p> <p><i>Conclusion:</i> Pending closure of CAR F1</p>	CAR F1	OK
<p>F.1.2. Are the approvals issued from organisations listed as DNAs on the UNFCCC CDM website?</p> <p>(VVS, §§ 41)</p> <p><i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.</i></p>		<p><i>Description:</i> Refer section F.1.1 in this regard.</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR F1	OK
<p>F.1.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol?</p> <p>(VVS, § 39(a))</p>		<p><i>Description:</i> Refer section F.1.1 in this regard.</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR F1	OK
<p>F.1.4. Do the written approvals confirm that the participation is voluntary?</p> <p>(VVS, § 39(b))</p>		<p><i>Description:</i> Refer section F.1.1 in this regard.</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR F1	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
F.1.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the country?  (VVS, § 39(c))		<i>Description:</i> Refer section F.1.1 in this regard. <i>Validator's action:</i> <i>Conclusion:</i>	CAR F1	OK
F.1.6. Do the written approvals refer to the precise project title in the PDD submitted for registration or an additional specification of the project activity, e.g. PDD version number?  (VVS, §§ 39(d))		<i>Description:</i> Refer section F.1.1 in this regard. <i>Validator's action:</i> <i>Conclusion:</i>	CAR F1	OK
F.1.7. Are the written approvals unconditional with regard to F.1.3 to F.1.6?  (VVS, § 40)		<i>Description:</i> Refer section F.1.1 in this regard. <i>Validator's action:</i> <i>Conclusion:</i>	CAR F1	OK
F.1.8. Is the information regarding the project participants listed in tabular form in PDD and is internally consistent with the information provided in the section that contains the contact information of the project participants?  (VVS, § 46)	/PDD/	<i>Description:</i> The information regarding project participant is included in the PDD. The information regarding project proponent has been verified to be internally consistent throughout the PDD.  <i>Validator's action:</i> The PDD has been reviewed to confirm the same.  <i>Conclusion:</i> The information regarding the project participant has been provided consistently in the PDD.	OK	OK



<b>Checklist Item</b> (incl. guidance for the validation team)	<b>Reference</b>	<b>Validation Team Comments</b> (justification and substantiation of information, data and evidences)	<b>Draft Concl.</b>	<b>Final Concl.</b>
<p>F.1.9. Are all project participants listed in the PDD approved at least by one Party involved?</p> <p>(VVS, § 45)</p> <p><i>Indicate whether the participation of the project participant(s) has been approved by a Party to the Kyoto Protocol.</i></p> <p><i>Describe the means of validation employed to draw this conclusion.</i></p>	<p>/PDD/</p>	<p><i>Description:</i> Project proponent included in the project activity is correct and the same is included consistently in the PDD. However, the host country approval for the project is not yet submitted to the validation team for which CAR F1 has been raised.</p> <p><i>Validator's action:</i> The PDD has been reviewed to confirm the same.</p> <p><i>Conclusion:</i> Pending closure of CAR F1.</p>	<p>CAR F1</p>	<p>OK</p>
<p>F.1.10. Are any other project participants than those authorized as project participants listed in the PDD?</p> <p>(VVS, § 47)</p>	<p>/PDD/</p>	<p><i>Description:</i> project proponents in the project activity and the same are included consistently included in the PDD. No other participant has been listed in the PDD.</p> <p><i>Validator's action:</i> The PDD has been reviewed to confirm the same.</p> <p><i>Conclusion:</i> No other project participant has been listed in the PDD.</p>	<p>OK</p>	<p>OK</p>
<p><b>F.1. Modalities of Communication Statement</b></p> <p><i>A due diligence on the Modalities of Communication statement in accordance with the requirements established in the VVS is mandatory.</i></p>				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>F.2.1. Has a valid Modalities of Communication (MoC) been provided to the validation team from a project participant with whom the DOE has a contractual relationship? (VVS, § 55)</p> <p><i>Indicate whether a MoC has been received, with a clear reference to the contractual relationship of the project participant with the DOE.</i></p>	/IM01/	The Modalities of Communication (MoC) for the project is not submitted to the validation team for which CAR F2 has been raised.	CAR F2	OK
<p>F.2.2. Has the MoC been signed by a duly authorized person on behalf of the respective project participant? (VVS, §§ 54, 56)</p> <p><i>Please Indicate how the personal and corporate identities of all project participants and focal points included in the MoC statement have been validated.</i></p>	/IM01/	<p>The personal and corporate identities of all project participants and focal points included in the MoC were validated by:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Directly checking evidence for corporate and personal entity</li> <li><input checked="" type="checkbox"/> Notarized documentation</li> <li><input checked="" type="checkbox"/> Written confirmation from the project participant that all corporate and personal details are accurate and valid. , including specimen signatures and employment status of their signaries whether a letter of approval has been received, with a clear reference to the supporting documentation</li> </ul>	CAR F2	OK
<p>F.2.3. Has the MoC statement correctly been completed? (VVS, §§ 59, 60)</p>	/IM01/	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The latest version of the form (F-CDM-MOC) has been used</li> <li><input checked="" type="checkbox"/> Annex 1 of the MoC is correctly completed</li> <li><input checked="" type="checkbox"/> The project participants' authorized signatories signing the MoC are also listed in Annex 1 of the MoC.</li> </ul>	CAR F2	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><b>F.2. PDD editorial aspects</b></p> <p><i>The PDD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i></p>				
<p>F.3.1. Has the latest version of the PDD form been applied? (VVS, § 62)</p>	/UNFCCC/ /PDD/	<p><i>Description:</i> The PDD has been filled using the latest template, with version no. 04.1 available in the UNFCCC website.</p> <p><i>Validator's action:</i> The UNFCCC website/UNFCCC/ has been checked by the validation team to confirm the same.</p> <p><i>Conclusion:</i> Latest version of the PDD has been applied.</p>	OK	OK
<p>F.3.2. Has the PDD been duly filled in accordance with the latest guidance(s)? (VVS, § 63)</p>	/UNFCCC/ /PDD/	<p><i>Description:</i> The PDD has been found to be duly filled in accordance with the latest guidance, "Guidelines for Completing the Project Design Document Form", version 1.0.</p> <p><i>Validator's action:</i> The PDD and UNFCCC website are checked to confirm the same.</p> <p><i>Conclusion:</i> The PDD has been filled in accordance with the latest guideline.</p>	OK	OK



## ANNEX 2: ASSESSMENT OF APPLICABILITY CRITERIA

**Table A-2:** Assessment of Applicability Criteria (VVS §§ 70 – 76)

Applicability Criteria	Evidence used	met	not met	N/A	Assessment of validation team (results and means of assessment)
------------------------	---------------	-----	---------	-----	--



<p>This methodology is applicable to grid-connected renewable energy power generation project activities that:</p> <p>(a) Install a Greenfield power plant;                  (b) Involve a capacity addition to (an) existing plant(s);                  (c) Involve a retrofit of (an) existing operating plants/units;                  (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or                  (e) Involve a replacement of (an) existing plant(s)/unit(s).</p>	/PO/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>The proposed CDM project activity involves the installation of the 11 WTGs, each of 2000 kW capacity. The validation team reviewed the purchase orders for WTGs placed by the project participant on WTG supplier. The electricity generated from the project activity will be exported to NEWNE Grid (Regional Grid of India). The validation team also verified the grid connections during site visit by visiting the substations where the WTGs of the project activity will be connected to the grid. As per CEA database Version 9, Gujarat falls under the NEWNE Regional grid of India, the geographic and system boundaries of which are clearly identified and information on the characteristics of the grid is available. Based on the above assessment, the validation team confirms that the proposed CDM project activity is a Green Field grid connected renewable power generation project based on wind energy. Hence, this applicability condition is fulfilled.</p>
<p>The methodology is applicable under the following conditions:</p> <p>The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</p> <p>In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.</p>	/PDD/ /ACM/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>From the purchase order and the physical Verification at the site it is confirmed that the project activity is not a retrofit or replacement of older wind turbine generators with new wind turbine generators. Based on physical site visit, and documentary evidence, the validation team is able to confirm that the project activity is a Greenfield project and not a capacity addition. Hence, this applicability condition is not relevant to proposed CDM project activity.</p>



<p>In case of hydro power plants, one of the following conditions shall apply:<sup>7</sup></p> <p>(a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or</p> <p>(b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3), is greater than 4 W/m<sup>2</sup>; or</p> <p>(c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m<sup>2</sup>; or</p> <p>(d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m<sup>2</sup>, all of the following conditions shall apply:</p> <p>i. The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m<sup>2</sup>;</p> <p>ii. Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;</p> <p>iii. Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m<sup>2</sup> shall be:</p> <p>(a) Lower than or equal to 15 MW; and</p> <p>(b) Less than 10 per cent of the total installed capacity of integrated hydro power project</p>	<p>/PO/ /IM01/ /IM02/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>This applicability condition does not apply since the project activity is wind energy based power project.</p>
<p><sup>7</sup> Project participants wishing to undertake a hydroelectric project activity that result in a new reservoir or an increase in the volume of an existing reservoir, in particular where reservoirs have no significant vegetative biomass in the catchments area, may request a revision to the approved consolidated methodology.</p>					



<p>In the case of integrated hydro power projects, project proponent shall:</p> <p>(a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or</p> <p>(b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.</p>	<p>/PDD/ /ACM/ /IM01/ /IM02/</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>This applicability condition does not apply since the project activity is wind energy based power project.</p>
---	--	--------------------------	-------------------------------------	--------------------------	---



<p>The methodology is not applicable to:</p> <p>(a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site;</p> <p>(b) Biomass fired power plants/units.</p>	<p>/TS/ /IM01/ /IM02/</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>As described in the above applicability conditions, the proposed project activity is wind based power project and hence this condition is not relevant to the proposed CDM project activity. Physical verification at the site confirmed that the project activity is not an add up of a renewable and non-renewable component and only wind turbine generators are involved in the project activity having capacity total of 22 MW, which classifies as a large scale project activity (&gt; 15 MW). The project activity does not involve switching from fossil fuels to renewable energy sources at the project activity site nor is a biomass fired power plant, but is only a wind energy based electricity generation project. All the applicability condition of the applied methodology ACM0002 Version 14.0.0 (in webhosted) has not been provided in section B.2 of the webhosted PDD as per revised version of methodology i.e. version 15.0 and this was raised as CAR B by the validation team. The Project Participant has provided all the applicability condition of the methodology and hence CAR B was closed by the validation team. The selected baseline and monitoring methodology, ACM 0002, Version 15.0.0 is previously approved by the CDM Executive Board. The validation team hereby confirms the applicability of the applied baseline and monitoring methodology to the proposed CDM project activity. Validation team hereby confirms that the selected baseline and monitoring methodology, tool and other methodology component is</p>
<p>In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".</p>	<p>/IM01/ /IM02/</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Not applicable; as project is not retrofits, rehabilitations, replacements, or capacity additions.</p>



---

In addition, the applicability conditions included in the tools referred to below apply. <sup>8</sup>	/PO/ /IM01/ /IM02/	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
---	--------------------------	--------------------------	-------------------------------------	--	--

---

<sup>8</sup> The condition in the “Combined tool to identify the baseline scenario and demonstrate additionality” that all potential alternative scenarios to the proposed project activity must be available options to project participants; does not apply to this methodology, as this methodology only refers to some steps of this tool.



**ANNEX 3: ASSESSMENT OF BASELINE IDENTIFICATION**

**Table A-3:** Assessment of Baseline Identification (VVS §§88 – 95)

<input checked="" type="checkbox"/>	Baseline is pre-defined by the methodology					
<input type="checkbox"/>	Assessment of baseline alternatives see below					
Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
As per the applied methodology, ACM0002 version. 15.0, since the project activity is the installation of a new grid-connected renewable power plant/unit, the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources has been correctly considered as the baseline scenario. No other alternative is required to be considered for baseline identification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Baseline is determined by the applied methodology, ACM0002 version. 15.0.	/ACM/ /CEA/ /PDD/	<input type="checkbox"/>	Project activity is the installation of new grid connected wind project hence as per paragraph 10 of the approved methodology ACM0002 version. 15.0, the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources. It is not a modification or retrofit of an existing electricity generation facility. Baseline determination is OK.

## ANNEX 4: ASSESSMENT OF FINANCIAL PARAMETERS

**Table A-4:** Assessment of Financial Parameters(VVS, §§ 120, 121 / in case financial parameters stem from FSR §122,)

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
Plant Capacity	22	MW	<p>Proposal from M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited via proposal dated <b>18/07/2013</b>.</p> <p>Agreement for WTG erection, supply and commissioning signed between PP and M/s Vestas Wind Technology India Private Limited (Vestas) for 21.8 MW WTG dated 31/12/2013</p>	/OFFER/ /PO/ /SC/	<input checked="" type="checkbox"/>	<p>The value is based on the offer submitted by M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited and purchase order issued to Vestas by the company. The value is correct and appropriate for the project. The provided data source has been checked and the applied value was verified.</p> <p>Validation team would like to highlight here that in webhosted PDD the project capacity was 21.8 MW i.e. 10 WTGs x 2 MW + 1 WTG x 1.8 MW. The project capacity, 21.8 MW was decided at the time of investment decision, as the evacuation approval for the substation was fully utilized with a remaining capacity of 21.8 MW. However, during the course of validation process and actual project implementation and during site visit &amp; interview with the PP &amp; Vestas and review of statutory approval letters the project</p>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						capacity was revised to 22 MW i.e. 11 WTGs x 2 MW. The said revision in the project capacity is due to extended evacuation approval granted by GETCO for the substation to which project activity WTG supposed to be connected. Validation team has checked the letter from Gujarat Energy Transmission Corporation Limited (GETCO) for the evacuation capacity expansion from 200 MW to 201.9 MW to confirm that the revision done in the project capacity from 21.8 MW to 22 MW is realistic case. This revision in project capacity is justified appropriately by PP with valid documents developer permission from GEDA, Power Purchase Agreement, and commissioning certificates. As verified from actual total project cost break up submitted by PP validation team has found that the total project cost remains same for 22 MW as it was offered for 21.8 MW. Further, the project proponent has considered the same cost for the enhanced capacity, 22.0 MW as previously considered for 21.8 MW which is conservative. Therefore, project proponent has revised the project document based on 22 MW which is correct and conservative approach and



<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						therefore accepted to validation team.
Project life	20	Years	Proposal from Vestas to M/s Powerica Limited dated <b>18/07/2013</b> . Certificate from DNV (Det Norske Veritas) dated 09/03/2012 as evidence for technical lifetime of the WTGs included in the project activity	/OFFER/ /PO/ /TS/ /P-Life/	<input checked="" type="checkbox"/>	It is based on the information given by the machinery supplier on the technical life time of the equipment incidentally; this is also in conformity with the operating life given by GERC.  Hence, the value considered by PP is correct and appropriate for the project.
Project cost	1543.30	Rs. In million	Proposal from M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited via proposal dated <b>18/07/2013</b> .  Agreement for WTG erection, supply and commissioning signed between PP and M/s	/OFFER/ /PO/ /SC/	<input checked="" type="checkbox"/>	The project cost includes land, WTGs, tower, transformer, electrical, erection and commissioning cost. Project developer has submitted the offer letters for 21.8 MW and the cost has been verified to be correct. Since the offer document was available with the PP at the time of decision making, consideration of this cost is in conformity with Guidance 6 of Annex 5, EB 62.  Since the actual cost of the project (based on purchase orders issued for 21.8 MW) is Rs.1433.40 million, which is only 7.12% less than the project



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
			Vestas Wind Technology India Private Limited (Vestas) for 21.8 MW WTG dated <b>31/12/2013</b>			<p>cost considered for additionality demonstration; validation team considers the cost as correct and appropriate for the project activity. The validation team has confirmed from the investment analysis spreadsheet that IRR does not cross the benchmark even if the actual project cost is used. However, this variation, however, is covered in the - 10 % sensitivity analysis carried out on project cost, which is provided in the validation report in chapter 5. The equity IRR does not exceed the benchmark even with a -10% change in the project cost and hence, the additionality of the project activity is still substantiated.</p> <p>Also, as per webhosted PDD the project cost for 21.8 MW was same i.e. INR 1543.30 million and in revised PDD same cost is considered for 22 MW which is conservative.</p> <p>Validation team made an independent assessment considering the recently registered wind project located in Gujarat listed in UNFCCC website to verify the per MW project cost. Validation team checked the total project cost of other CDM projects with capacity of the respective project activity has</p>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						<p>been in this range only. Project Ref. no. 7671 INR 74 Millions/WTG; Project Ref. no. 8672 INR 74.4 Millions/WTG; Project Ref. no. 8297 INR 65.5 Millions/WTG.</p> <p>Taking into consideration all these factors and based on the local and sectoral expertise the validation team concludes that the project cost is within the acceptable range and hence appropriate.</p> <p>Therefore, the project cost considered in the additionality demonstration of the project is correct, appropriate and conservative.</p>
Plant Load Factor	26.72	Percent	<p>Third Party PLF assessment report dated 30/07/2013.</p> <p>GERC Tariff Order dated 25/07/2013.</p> <p>Actual power generation of WTGs of Powerica Limited of other project located in Kutch district of Gujarat (same location)</p>	/PLF/ /GERC/ /EGS/	<input checked="" type="checkbox"/>	<p>At the time of decision making, PP estimated the generation i.e. 26.72 % based on the third party PLF report as recommended Guidelines for the reporting and validation of plant load factors version 1.0 vide EB 48 Annex 11. As per GERC order dated 25/07/2013 the recommended value of PLF is 24% which is less than what is considered by PP in additionality demonstration.</p> <p>However, during the course of validation process and actual project implementation WTG having</p>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						<p>location no. VW 41 (1.8 MW) was enhanced to 2 MW having location no. JM08. Therefore, project proponent has submitted a PLF report addendum for said change which reveals the PLF for the project activity as 26.42 %. Therefore, for conservative estimation of additionality project proponent has used PLF value of 26.72% in the IRR calculation which is correct and appropriate.</p> <p>Validation team also requested the actual generation achieved by other projects set up by PP in same region i.e. of Kutch district and observed that the WTGs achieved net average PLF of 17.57%; 21%; 27.21% and 29.27% during 2012-13 and 2013-14.</p> <p>Moreover, verification team considered GERC order dated 25/07/2013 to check the appropriateness of the PLF value as per third party PLF report. According to the tariff order GERC has recommended minimum PLF of 23% while the PLF as per third party report is higher (26.72%).</p> <p>Nonetheless, PLF has been subjected to sensitivity analysis wherein the continued additionality of the project has been demonstrated even with a 10%</p>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						increase in PLF (resulting in a net PLF of 29.39%); project loses its additionality only when the WTGs achieve PLF of 33.33% on a sustained basis right through the operating life.  Therefore, validation team accepted the PLF as correct and appropriate for the project activity.
Debt-Equity Ratio	70:30	Ratio	GERC Tariff order dated 25/07/2013.	/GERC/ /MD/	<input checked="" type="checkbox"/>	GERC tariff order dated 25/07/2013 recommends debt equity ratio of 70:30 which is normative for power generating companies in the host country. The above referred tariff order also confirms that Tariff Policy (TP) notified by Ministry of Power, Government of India stipulates a debt-equity ratio of 70:30 for financing of power project. Based on local and sectoral expertise validation team found that in India, infrastructure projects are generally entitled to a debt equity ratio of 70:30, though depending on the case the ratio can be marginally higher or lower. GERC has recommend debt equity ratio of 70:30 for wind energy projects. Since the debt equity ratio is in conformity with general norm and is evidenced by the sanction letter, the validation team is convinced that the financing pattern assumed is appropriate and correct



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						and is also valid. Also, the validation team was able to check the actual values from the loan sanction letter, wherein the ratio is approximately the same. However, this has no impact on IRR; hence validation team considers the value used is reasonable and appropriate.
Loan period (in years)	10	years	GERC Tariff order dated 25/07/2013.	/GERC/ /LS/	<input checked="" type="checkbox"/>	<p>The loan period is verified from GERC tariff order dated 25/07/2013 as 10 years and found to be consistent. The validation team also reviewed the tariff order, wherein the loan repayment period is taken as 10 years and nil moratorium periods.</p> <p>Validation team has also checked the actual loan sanction letter as per loan sanction letter. The actual repayment period of ~ 4 years. If same is considered in the financial model project doesn't loses its additionality. Therefore, it is confirmed by validation team that repayment period considered in the project is correct and accurate.</p> <p>However, this has no impact on IRR; hence validation team considers the value used is reasonable and appropriate.</p>

<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
Rate of Interest	13	%	GERC Tariff order dated 25/07/2013. Loan Sanction letter issued by Standard Chartered bank to Project Proponent dated 10/04/2014	/GERC/ /LS/	<input checked="" type="checkbox"/>	The interest rate on loan is verified from GERC tariff order dated 25/07/2013 and found to be correct and consistent. The validation team also reviewed the tariff order, wherein the interest rate is taken as 13%. Hence validation team considers the value used is reasonable and appropriate.  Validation team has also checked the actual loan sanction letter as per loan sanction letter. The actual interest rate considered in the project is 4.3% (External Commercial Borrowing, ECB loan) and repayment period of ~ 4 years. If same is considered in the financial model project doesn't loses its additionality. Therefore, it is confirmed by validation team that interest rate considered in the project is correct and accurate.
Tariff per kWh	4.15	In INR	GERC Tariff order dated 25/07/2013 (p.26) Power Purchase Agreement signed with Gujarat Urja Vikas Nigam Ltd (GUVNL)	/GERC/ /MD/ /PPA/	<input checked="" type="checkbox"/>	Tariff is based on the GERC tariff order dated 25/07/2013 which was valid during the time of investment decision. Validation team checked the tariff order of GERC and found the tariff considered in the financial indicator calculation to be correct. Moreover, Power Purchase Agreement (PPA) has been verified by validation team which fixes at 4.15



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
			Board resolution passed by Board of directors of Company i.e. Powerica Limited for investment in 21.8 MW WTG dated 17/09/2013			INR/kWh the tariff for the whole life time of the project activity i.e. 20 years. Therefore, even 1% increase in tariff is unrealistic. Thus, it is concluded by validation team that the tariff considered in financial indicator calculation is valid, appropriate and correct and conforms to EB 62 annex 5.
O & M cost per WTG per annum	2.8	Rs. in million	Proposal (including O&M offer also) from M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited via proposal dated 18/07/2013.  Operation and Maintenance (O&M) Service & Availability Agreement Vestas Wind Technology India Private Ltd. dated 08/01/2014.	/OFFER/ /PO/	<input checked="" type="checkbox"/>	O&M cost is based on the offer letter issued by Vestas, a copy of which has been submitted to DOE. The value has been verified and found to be correct.  Validation team cross checked the O&M cost with the O&M agreement signed by PP. As per actual O&M agreement the O&M cost is INR 2.175 million per WTG per year. This is 6.875 % less than total cost considered in the present financial model. Validation team has checked the plausibility of the input parameter in sensitivity analysis which reveals that even after 100% decrease in the O&M cost project activity remains additional.  Validation team made an independent assessment considering the other registered wind project located in Gujarat listed in UNFCCC website to verify the



<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						<p>O&amp;M cost and escalation. Validation team checked the O&amp;M cost cost of other CDM projects with cost of the respective project activity has been as follows: Project Ref. no. 7671 INR 2.8 Millions/WTG/Yr; Project Ref. no. 8672 INR 2.8 Millions/WTG/Yr; Project Ref. no. 8297 INR 2.5 Millions/WTG/Yr.</p> <p>Hence, it is conclude by validation team the O&amp;M cost considered in financial indicator calculation is within the range. Therefore, the value considered is correct, appropriate and conservative.</p>
Free O&M period	2	Year	<p>Proposal from M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited via proposal dated <b>18/07/2013</b>.</p> <p>Service &amp; Availability Agreement Vestas Wind Technology India Private Ltd. dated 08/01/2014.</p>	/OFFER/ /PO/	<input checked="" type="checkbox"/>	<p>As per offer received from the Vestas the free O&amp;M is considered in financial calculation is 2 years. Validation team has checked the offer to confirm the correctness of the input parameter.</p> <p>As per the O&amp;M Service &amp; Availability agreement issued, the free O&amp;M period is for also 2 years. This does not impact additionality, as financial indicator is not sensitive to O&amp;M cost at all, as even full removal of the O&amp;M cost does not render the project non-additional.</p> <p>Hence, validation team accepted the free O&amp;M</p>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						period of 2 year as correct and appropriate
O&M escalation	5	Percent	<p>Proposal from M/s Vestas Wind Technology India Private Limited (Vestas) to M/s Powerica Limited via proposal dated <u>18/07/2013</u>.</p> <p>O&amp;M agreement signed for Old Wind Power project by Powerica Limited.</p>	/OFFER/ /UNFCCC/	<input checked="" type="checkbox"/>	<p>The letter issued by Vestas clearly states that the O&amp;M cost is subject to 5% escalation over previous year. Validation team has checked the offer to confirm the correctness of the input parameter.</p> <p>Validation team has also checked actual O&amp;M Service &amp; Availability agreement signed by PP but it does not include the O&amp;M escalation rate.</p> <p>Validation team made an independent assessment considering the other registered wind project located in Gujarat listed in UNFCCC website to verify the O&amp;M cost and escalation. Validation team checked the O&amp;M cost of other CDM projects with cost of the respective project activity has been as follows: Project Ref. no. 7671 escalation rate is 7.5%; Project Ref. no. 8672 escalation rate is 7.5%; Project Ref. no. 8297 escalation rate is 7.5%.</p> <p>Validation team has checked even after considering the escalation rate of 7.5% in the financial model project doesn't breaches the benchmark and remains additional. Hence, it is concluded by</p>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						validation team that the input parameter is correct and appropriate.
Insurance	0.15	Million INR/WT G/ year	Actual Premium paid by the project proponent for the existing old WTGs commissioned at the same location. (Insurance policy document dated 14/01/2013 and 04/02/2013 were referred)	/IP/	<input checked="" type="checkbox"/>	The insurance premium is evidenced by insurance premium receipts of previous wind project of the project proponent and hence available to PP at the time of investment decision making. Moreover, the insurance premium is supported by actual premium paid by the project developer subsequently.  Validation team observed that this insurance premium considered in the financial calculation constitutes around 0.15% of project cost. And based on local sectoral expertise this amount ranges from 0.08% to 0.25% in most of the cases. Validation team observed that insurance is not a critical factor in that even if the entire insurance premium is removed, the project will remain additional. Hence, the value is considered correct and appropriate
Salvage Value	10.00	Percent	Wind Power Policy 2013 by GERC tariff order dated 25/07/2013	/GERC/	<input checked="" type="checkbox"/>	The project proponent has considered the salvage value as per the GERC (Gujarat Electricity Regulatory Commission) dated 25/07/2013 and hence available to the PP at the time of investment

<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						<p>decision making time. GERC tariff order is verified by validation team to confirm that the reference considered is correct. Furthermore, since the assets are fully depreciated, 10% of project cost as salvage value represents potential profit and therefore it conforms to guidance 4 of Annex 5, EB 62.</p> <p>In addition to this the international practices estimate the salvage value at 10%. Therefore, the validation team considers the salvage value as correct and appropriate.</p>
Depreciation (IT)	15	Percent	Income Tax Rules and Income tax fourth Amendment rule,2012	/IT/	<input checked="" type="checkbox"/>	<p>IT depreciation is based on the Section 32 of income tax act which was applicable at the time of investment decision. Additional 20% of depreciation is claimed in the first year as per Section 32(1) (ia), Income tax Act.</p> <p>Validation team checked Income Tax rules and found it to be correct. Hence, the input parameter is valid, correct and appropriate</p>
Book Depreciation	5.28	Percent	Companies Act 1956, Section 14.	/IT/ /ACT/	<input checked="" type="checkbox"/>	<p>The book depreciation considered is based on the Companies act in the SLM method. Validation team checked book depreciation provided in the</p>

<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						companies act 1956 Section 14 and found it to be correct. Hence, the input parameter is valid, correct and appropriate.
Corporate Tax (Regular) 2013-14	32.45 <sup>9</sup>	Percent	As per IT act (Income tax applicable for the year 2013-14)	/IT/	<input checked="" type="checkbox"/>	The tax rates have been considered based on the prevailing tax rate as per the income tax rule applicable at the time of investment decision i.e. for the financial year 2013-14. The total tax is calculated based on addition of corporate tax, surcharge and educational cess. Hence the corporate tax rate considered is correct.
Tax holiday	10	Years	Income Tax Act	/IT/	<input checked="" type="checkbox"/>	As per Sec. 80IA of the Income Tax Act, infrastructure companies (under which the project activity falls) are entitled to claim tax holiday for any 10 consecutive years in the first 15 years of operation. Hence, the assumption and computation of tax liability are correct and appropriate.

<sup>9</sup><http://taxguru.in/income-tax/income-tax-rates-ay-201314-fy-201213.html>



<input type="checkbox"/>		No financial parameters are used for additionality justification				
<input checked="" type="checkbox"/>		Assessment of all financial parameters see below				
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
Benchmark	18.01	Percent	Detailed IRR calculation sheet Default Return on Equity as per EB 62, annex 5, in real term and RBI Bulletin	/XLS/ /RBI/ /UNFCCC/	<input checked="" type="checkbox"/>	<p>In accordance with guidance 15 of Annex 5, EB 62, project developer has chosen expected return on equity as the benchmark which comes out to be 18.01%. Expected return on equity has been computed using the Appendix of EB 62, annex 5 i.e. Default values for the expected return on equity and detailed calculations are provided in the spreadsheet<sup>/XLS/</sup> are verified by validation team.</p> <p>Default Return on Equity as per EB 62, annex 5, in real term comes out to be 11.75 %. This value is converted in nominal values by adding the mean value of the inflation rate of 5.60%. Validation team has checked the inflation forecast of central bank of India i.e. RBI and found that the mean value of the WPI forecast for next 10 years as per RBI is 5.60%. RBI link is checked by validation team to check the appropriateness of the considered value. The benchmark value thus works put to be 18.01% i.e. <math>((1+11.75%)*(1+5.60%)-1)</math>.</p> <p>The value of 18.01% based on the inflation rates available at the time of investment decision. Hence the value calculated using the EB 62, annex 5 is</p>



<input type="checkbox"/>	No financial parameters are used for additionality justification					
<input checked="" type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE comments	
					Correctness of value applied	Comment
						<p>correct and accepted.</p> <p>Validation team checked the data and found that the data used are from reliable and credible sources, methodology adopted is correct and the calculations are in order. The benchmark chosen is suitable for the type of financial indicator selected, and is in conformity with the Additionality Tool, guidance 12 of Annex 5, EB 62 and also paragraph 112 (a) of VVS.</p>

## ANNEX 5: ASSESSMENT OF BARRIER ANALYSIS

**Table A-5:** Assessment of Barrier Analysis (VVS, §§ 124-127)

<input checked="" type="checkbox"/>	No barrier parameters are used for additionality justification			
<input type="checkbox"/>	Assessment of barriers see below			
Kind of	Description of Barrier	Evidence	Assessment of validation team	



Barrier (invest, tech, other)		used	Appropriat eness of information source	Explanation of final result
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	
			<input type="checkbox"/>	



**ANNEX6: OUTCOME OF THE GSCP**

**Table A-6:** Outcome of the Global Stakeholder Consultation Process

(VVS, §§ 34- 37)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment *)	Action taken by the validation team to take due account on the comment *)	Conclusion (incl. CARs CLs or FARs)

\*) In case clarifications have been requested by the validation team corresponding rows shall be added



## ANNEX7: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL

**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Pankaj Patel**

SCHEME	STATUS	VALID UNTIL
CDM (Validation, Verification)	Lead Assessor	2016-06-21
VCS	Lead Assessor	2016-06-21

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
2.2	Heat Distribution	
3.1	Energy Demand	

31 - Rev.1 Date: 2014-01-09

Statement\_of\_Competence\_2014\_01\_09\_rev1.doc      200-VA060-F20-re3 / 2010-10-26

**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Indrapal Parmar**

SCHEME	STATUS	VALID UNTIL
CDM	Assessor (Validation, Verification)	2017-03-27
VCS / ISO 14064-2	Assessor	2017-03-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	

191 - Rev. 3, Date: 2014-08-20

191\_301-VA060-F20\_2014-08-20\_rev3.doc      301-VA060-F20-re3 / 2012-10-25

**Statement of Competence**  
Appointment and authorization according to the procedures  
of the TÜV NORD JI/CDM Certification Program

**Mr. Kunal Rami**

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2016-02-27
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2016-02-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
6.1	Construction	
13.1	Waste Handling and Disposal	13.1.1 Waste Management 13.1.2 Waste Water Management

224 - Rev. 4, Date: 2013-02-28

224\_301-VA060-F20\_2013-02-28\_rev4.doc      301-VA060-F20-re3 / 2010-10-25